ORDER NO. AD8904093C8

Service Manual

Cassette Deck

Dolby NR-Equipped Stereo Double Cassette Deck

RS-X911

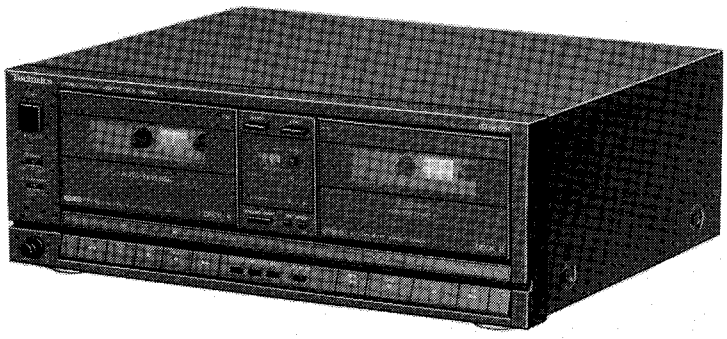
Color

(K)... Black Type

DOLBY SYSTEM

Area

Country Code	Area	Color
(E/E5)	Continental Europe.	(K)
(EB)	Great Britain.	(K)
(EG)	F.R.G. and Italy (West Germany).	(K)
(GC)	Third Region	(K)
(GN)	New Zealand.	(K)



SPECIFICATIONS

■ CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Heads	
(tape deck A) Rec/play	Permalloy head
Erasing	Double-gap ferrite head
(tape deck B) play	Permalloy head
Motors	
(tape deck A) Capstan/reel table drive	DC servo motor
(tape deck B) Capstan/reel table drive	DC servo motor
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Tape speed	4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby NR)	
NORMAL	30 Hz~16 kHz 40 Hz~15 kHz (DIN)
CrO_2	30 Hz~16 kHz 40 Hz~15 kHz (DIN)
METAL	30 Hz~18 kHz 40 Hz~17 kHz (DIN)
S/N (signal level = max recording level, CrO_2 type tape)	
Dolby B NR on	66 dB (CCIR)
Dolby NR off	56 dB (A weighted)
Wow and flutter	0.1 % (WRMS)
Fast forward and rewind times	Approx. 110 seconds with C-60 cassette tape
Input sensitivity and impedance	
LINE	60 mV/47 kΩ
Output voltage and impedance	
LINE	400 mV/800 Ω

■ GENERAL

Power consumption	15 W
Power supply	AC 50/60 Hz 220 V
[(EG) area only]	
Dimensions (W × H × D)	360 × 129 × 270 mm (14-3/16" × 5-2/32" × 10-5/8")
Weight	
For [EG] area	4.0 kg (8.8 lb.)
For others	3.5 kg (7.7 lb.)

Note:

Specifications are subject to change without notice.
Weight and dimensions are approximate.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Technics

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Central P.O. Box 288, Osaka 530-91, Japan

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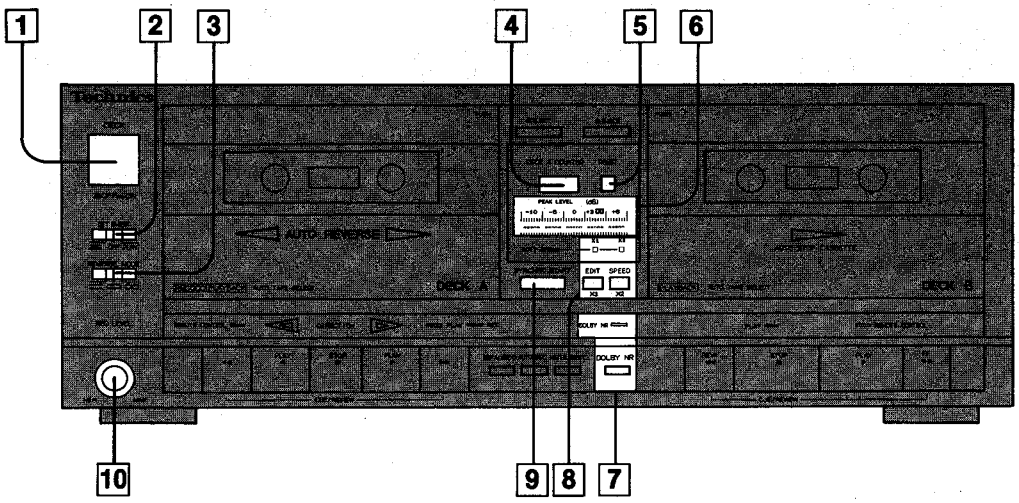
■ LOCATION OF CONTROLS



Controls common to both tape decks

1 DECK on/off switch (DECK) .....(EB) area.
Power on/off switch (POWER) .....(E, E5, GC, GN) areas.
Power on/standby ⏻ switch (POWER) .....(EG) area.

2 Timer switch (TIMER)
This switch can be used to automatically begin a tape recording or tape playback at a certain time, selected by an optional timer.

3 Reverse-mode selector (REVERSE MODE)
This selector can be used for selection of the reverse mode (for either playback or recording).

4 Tape counter (DECK A COUNTER)
Indicates the amount of tape movement.

5 Tape counter reset button (RESET)
This button can be used to reset the tape counter indication to "000".

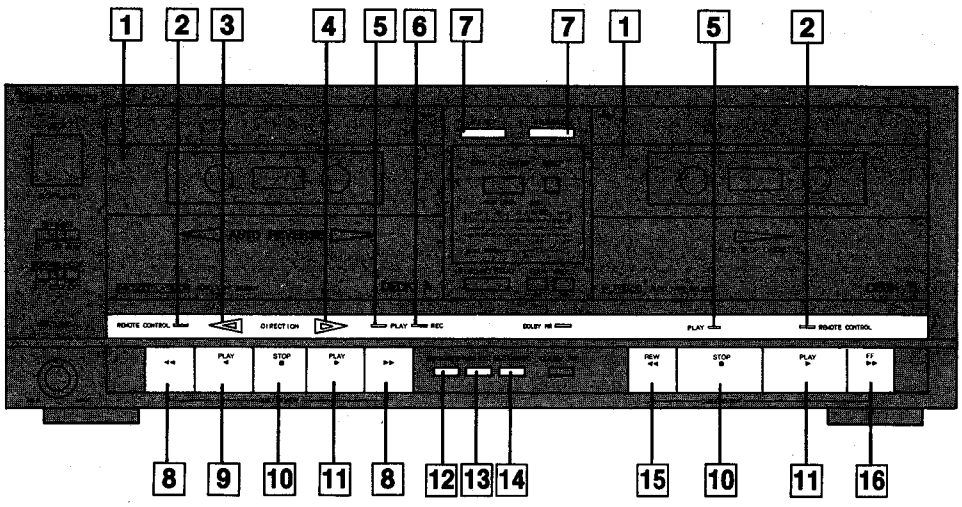
6 Input level meter (PEAK LEVEL)
During tape playback, this meter indicates the level of the recorded sound source.
During recording, it indicates the level to which the recording-level control has been adjusted.

7 Dolby noise-reduction button/indicator (DOLBY NR)
This button is used to reduce the "hissing" noise heard from the tape.

8 Edit-recording tape-speed buttons/ indicators (EDIT SPEED)
These buttons can be used to select the recording speed when a tape-to-tape recording is made.

9 Synchro-start button (SYNCHRO START)
This button can be used to start a tape-to-tape recording, simultaneously starting tape deck B (the playback deck) and tape deck A (the recording deck).

10 Recording-level control (REC LEVEL)
This control can be used to regulate the recording level of tape deck A.



Controls applicable to tape deck A and/or B

1 Cassette holder

2 Remote-control indicator (REMOTE CONTROL)
This indicator illuminates to indicate that this tape deck can now be controlled by the remote-control transmitter.

3 Reverse-side indicator (◀)
This indicator illuminates, during playback or recording of tape deck A, to indicate that side "B" of the tape is being used.

4 Forward-side indicator (▶)
This indicator illuminates, during playback or recording of tape deck A, to indicate that side "A" of the tape is being used.

5 Playback indicator (PLAY)
When this indicator illuminates steadily, it indicates that this tape deck is in the playback mode or the recording mode. (for tape deck A only)
When it flashes continually, this is an indication that the tape deck A is in the pause mode or the recording stand-by mode.

6 Recording indicator (REC)
This indicator illuminates to indicate that the tape deck A is in the recording stand-by mode or is recording.

7 Eject button (▲ EJECT)
This button can be used to open the cassette holder.

8 Fast-forward/cue, rewind/review buttons (◀◀/▶▶)
These buttons are used to advance or rewind the tape. During playback these buttons are used to cue or review while listening to the contents at high speed.

9 Reverse-side playback button (◀/PLAY)
This button can be used to start the playback or recording (of deck A only) of side "B" of the cassette in this tape deck. (The tape will then begin moving in the right-to-left direction.)

10 Stop button (■/STOP)
This button can be used to stop tape movement.

11 Forward-side playback button (▶/PLAY)
This button can be used to start the playback or recording (of deck A only) of side "A" of the cassette in this tape deck. (The tape will then begin moving in the left-to-right direction.)

12 Pause button (❚❚ PAUSE)
This button can be used to temporarily stop the tape playback or recording of deck A only.

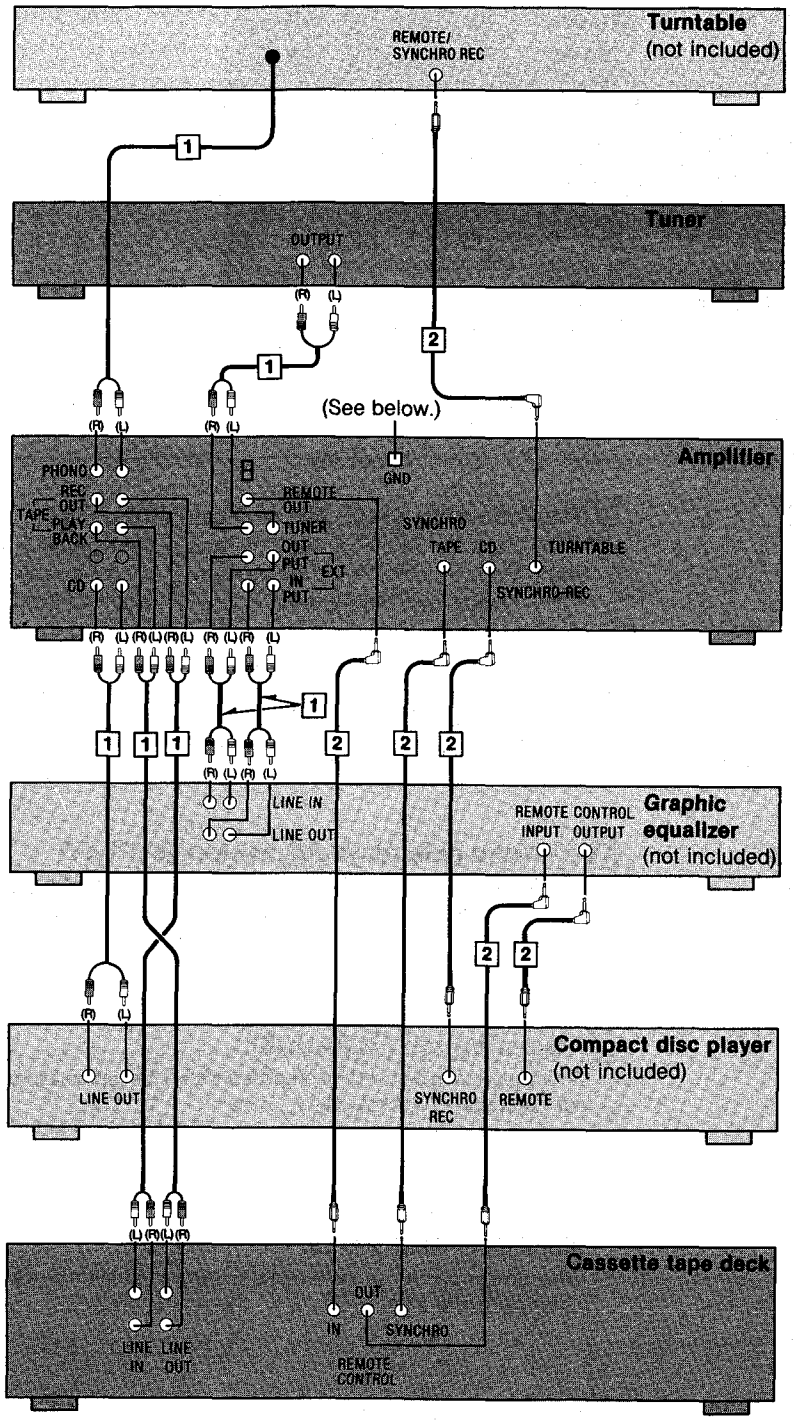
13 Automatic-record-muting button (O AUTO REC MUTE)
This button can be used to make (during recording) a silent interval on the tape.

14 Record button (● REC)
This button can be used to change the tape deck A to the recording stand-by mode.

15 Rewind/review button (REW/◀◀)
This button is used to rewind the tape. During playback this button is used to review the contents at high speed.

16 Fast-forward/cue button (FF/▶▶)
This button is used to advance the tape. During playback this button is used to cue the contents at high speed.

■ HOW TO CONNECTION



Connection diagrams shown are for connections to a Technics hi-fi component system.
Make connections in the numbered sequential order.

1 Connect the stereo connection cables

(The included stereo connection cables are only for the tuner and cassette tape deck).

2 Connect the L-type cables

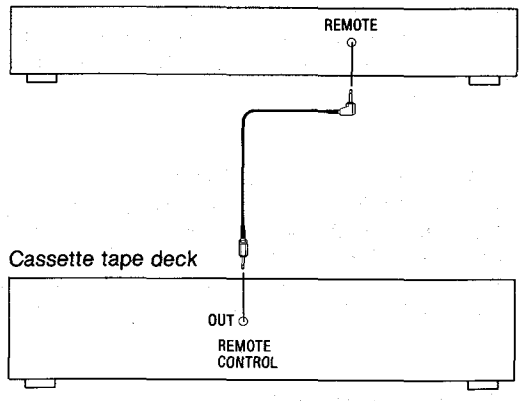
(The included L-type cables are only for the cassette tape deck).

Note:
Connect the L-type cables included with a compact disc player as illustrated below in either case:

- When a graphic equalizer does not have the remote control terminals.

- When a graphic equalizer is not used in combination with these components.

Compact disc player

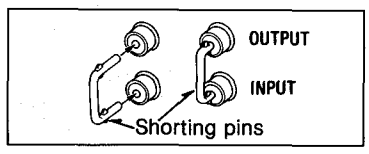


■ "GND" terminal of the amplifier

This terminal is for use with a turntable which has a ground wire.

■ "EXT" terminals of the amplifier

When these terminals are not in use, be sure to insert the shorting pins (included).



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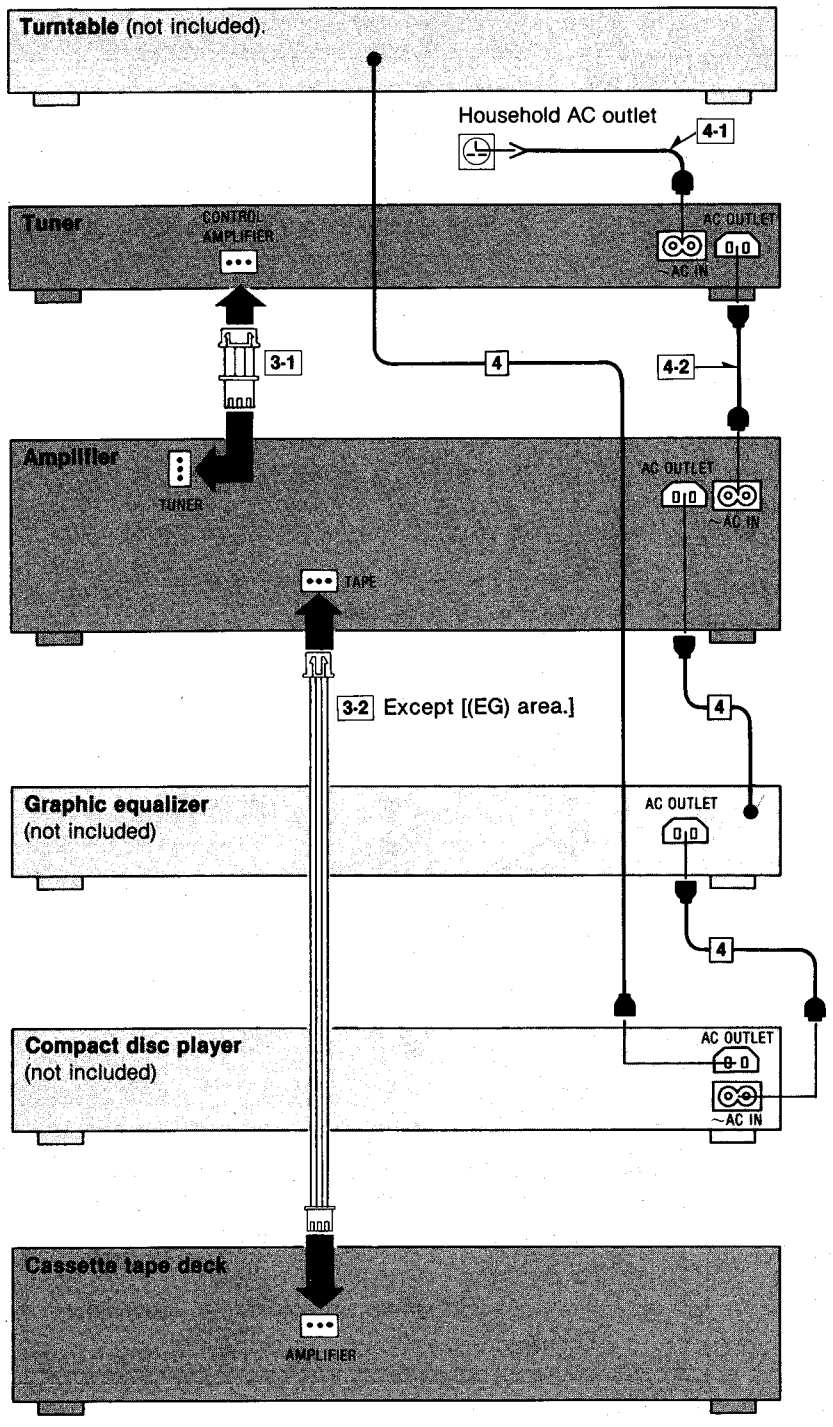


3 Connect the flat cables.

3-1 Connect the 3-core flat cable
(included).

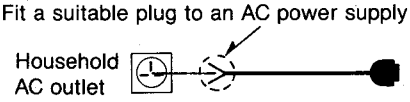
3-2 Connect the 3-core flat cable
(included).

4 Connect the AC power supply cords.

4-1

① Connect this cord only after all other cables and cords have been connected.

② Fit a suitable plug to an AC power supply cord.

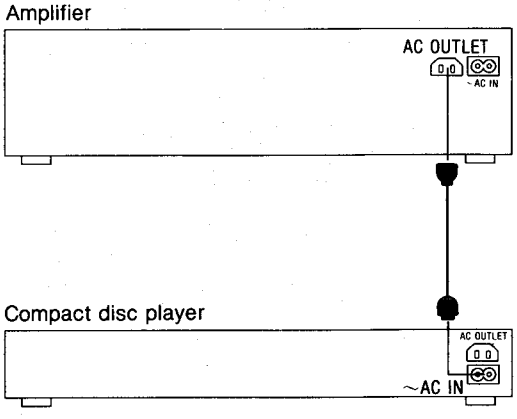


4-2

If the cord is to be connected to the household AC outlet, cut off and dispose of the plug and replace with a suitable plug.

Note:
Connect the AC power supply cord included with a compact disc player to the AC outlet of the amplifier as illustrated below in either case:

- When a graphic equalizer does not have the AC outlet.
- When a graphic equalizer is not used in combination with these components.



■ About the AC outlets of the each components

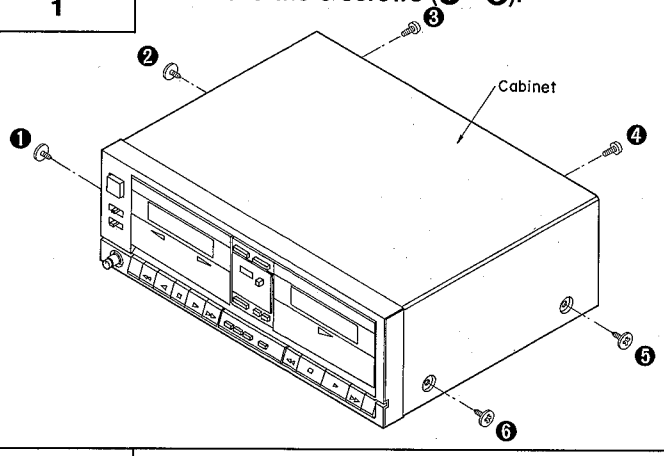
Do not connect video-related equipment (such as a TV, etc.) to the AC outlets of these components. (These outlets are especially for audio equipment.) Also do not exceed the indicated power ratings when connecting to these outlets.

- **"SWITCHED" outlets** (For tuner, amplifier)
  Power is controlled by the power switch of each unit.
- **"UNSWITCHED" outlets** (For compact disc player, graphic equalizer)
  Power is always available, regardless of power switch setting.

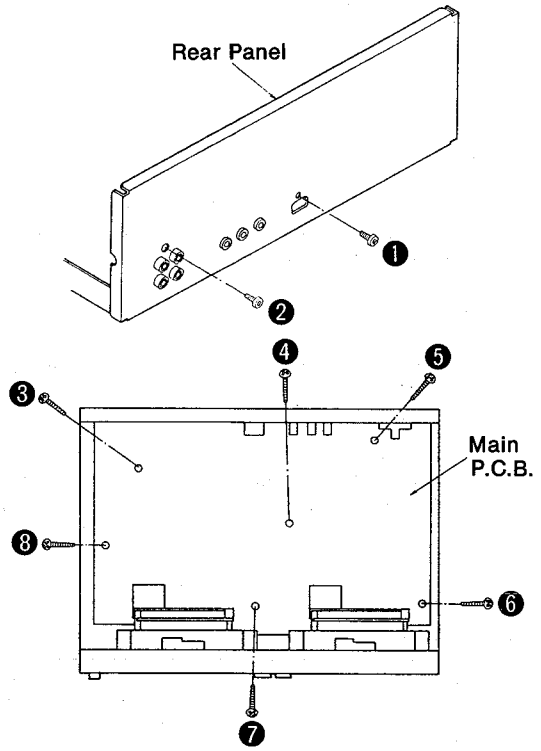
D

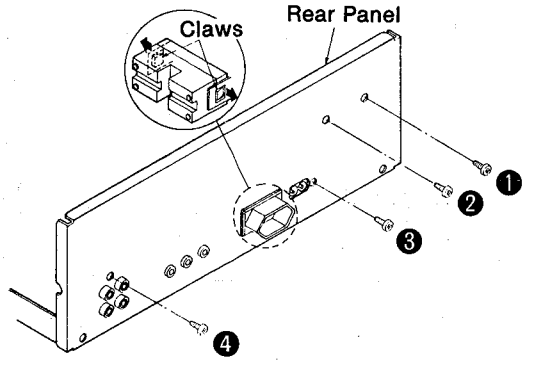
■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Removal of the Cabinet
Procedure 1	• Remove the 6 screws (❶~❻).

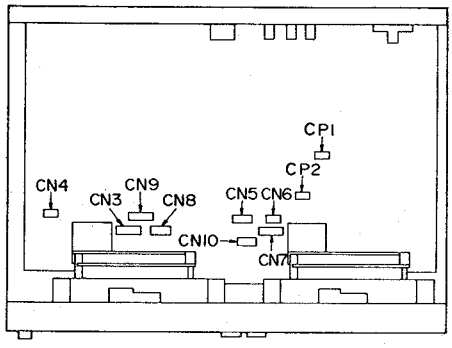


Ref. No. 3	Removal of the Main P.C.B.
Procedure 1→2→3	[E, E5, EB, GC, GN] areas. 1. Remove the 8 screws (❶~❽).

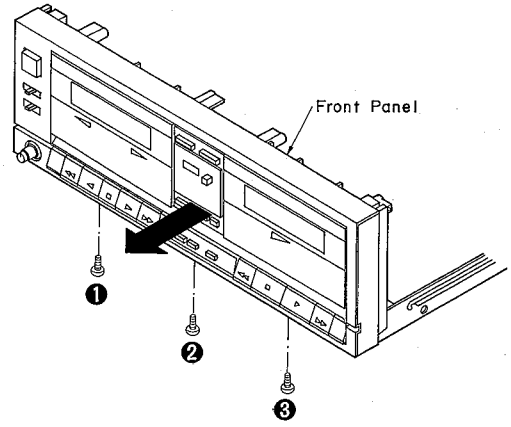




Ref. No. 2	Removal of the Front Panel
Procedure 1→2	1. Remove the 8 flat cables (CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10). 2. Remove the 2 connections (CP1, CP2).



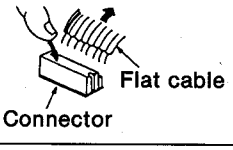
3. Remove the 3 screws (❶~❸).
4. Remove the front panel in the direction of the arrow.

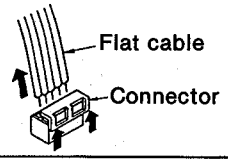


How to remove the flat cable

• Pull out the flat cable while pressing the connector.

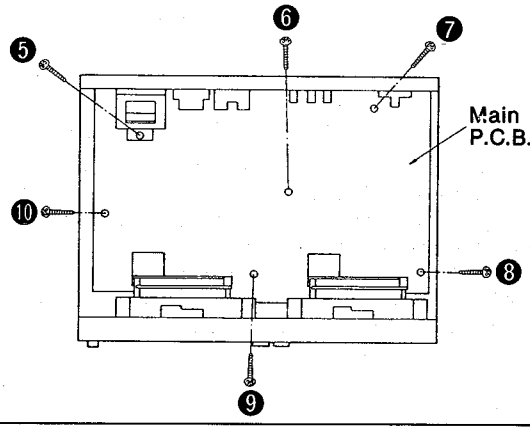
1. Lift the connector.
2. Pull out the flat cable.





[EG] area.

1. Remove the 10 screws (❶~❿).
2. Release the 2 claws of the AC OUT LET cover.



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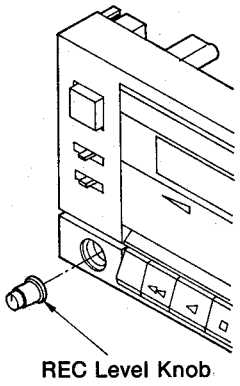
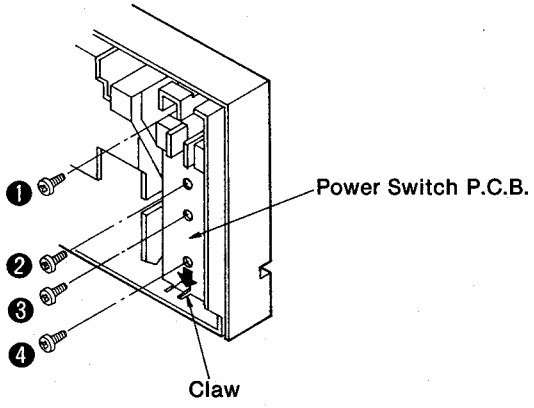
Ref. No. 5	**Removal of the Power/Timer/Reverse Mode/REC Level P.C.B.**
Procedure 1→2→5	1. Remove the rec level knob.

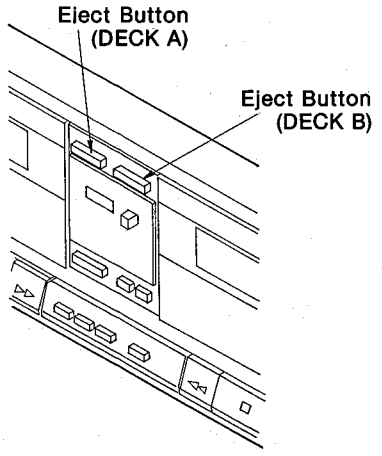
•Wind cellophane tape around the knob and pull it the direction of the arrow.



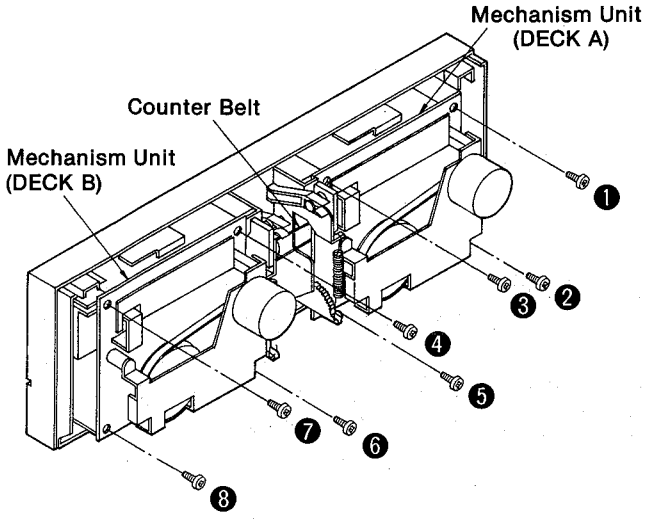
2. Remove the 4 screws (❶~❹).
3. Release the 1 claw.



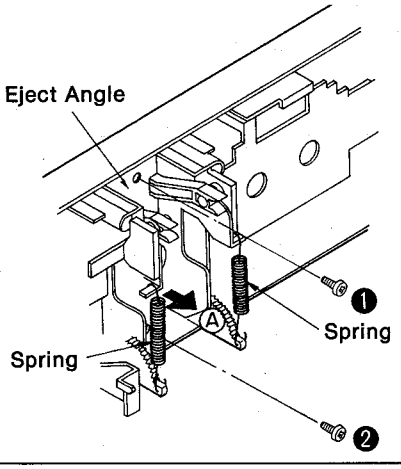
Ref. No. 6	**Removal of the Mechanism Units**
Procedure 1→2→6	•Removal of the Mechanism Unit (DECK A) 1. Push the eject button. 2. Remove the counter belt. 3. Remove the 4 screws (❶~❹).



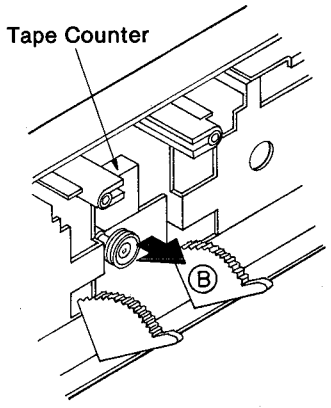
•Removal of the Mechanism Unit (DECK B)
1. Push the eject button.
2. Remove the 4 screws (❺~❽).



Ref. No. 7	**Removal of the Eject Angle and Tape Counter**
Procedure 1→2→6→7	1. Remove the spring. 2. Remove the 2 screws (❶, ❷).



3. Remove the eject angle in the direction of the arrow Ⓐ.
4. Remove the tape counter in the direction of the arrow Ⓑ.



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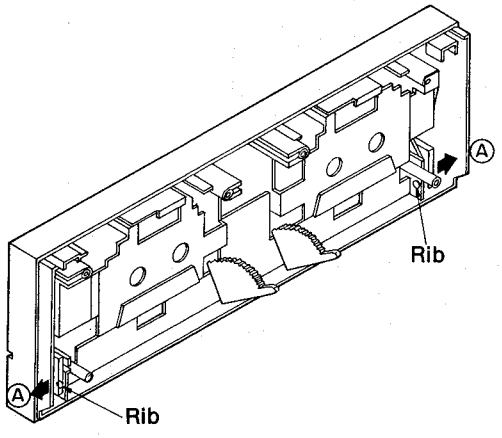
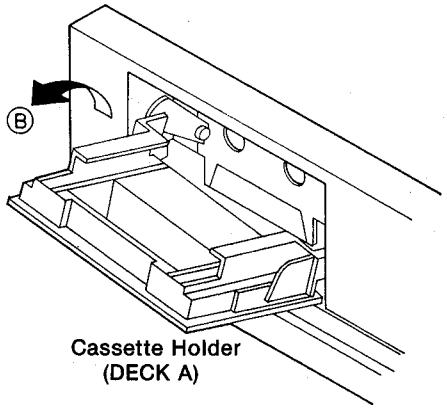
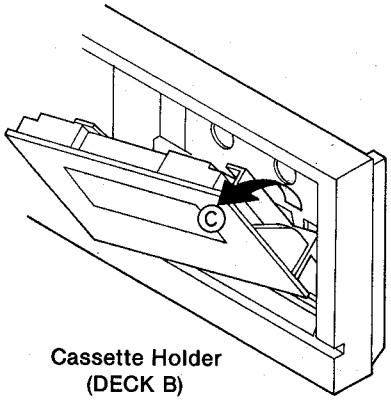
Ref. No. 8	**Removal of the Cassette Holder**
Procedure 1→2→6 →7→8	1. Remove the ribs in the direction of the arrow Ⓐ.

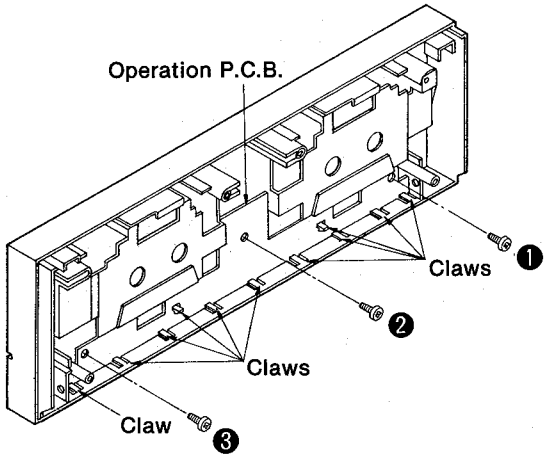
2. Remove the cassette holder (DECK A) in the direction of the arrow Ⓑ.
3. Remove the cassette holder (DECK B) in the direction of the arrow Ⓒ.







Ref. No. 9	**Removal of the Operation P.C.B.**
Procedure 8→9	1. Remove the 3 screws (❶~❸). 2. Release the 11 claws.



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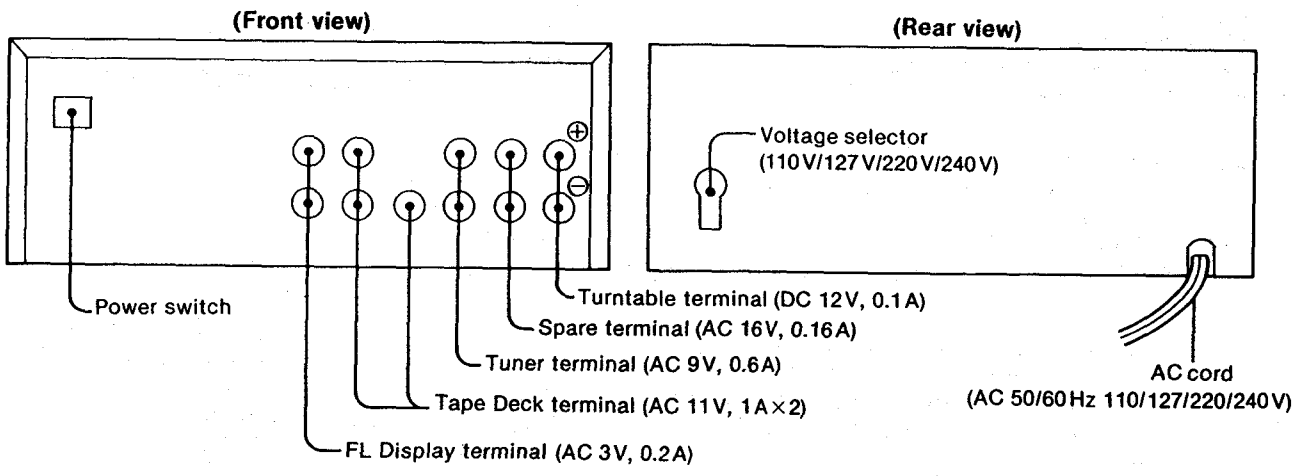
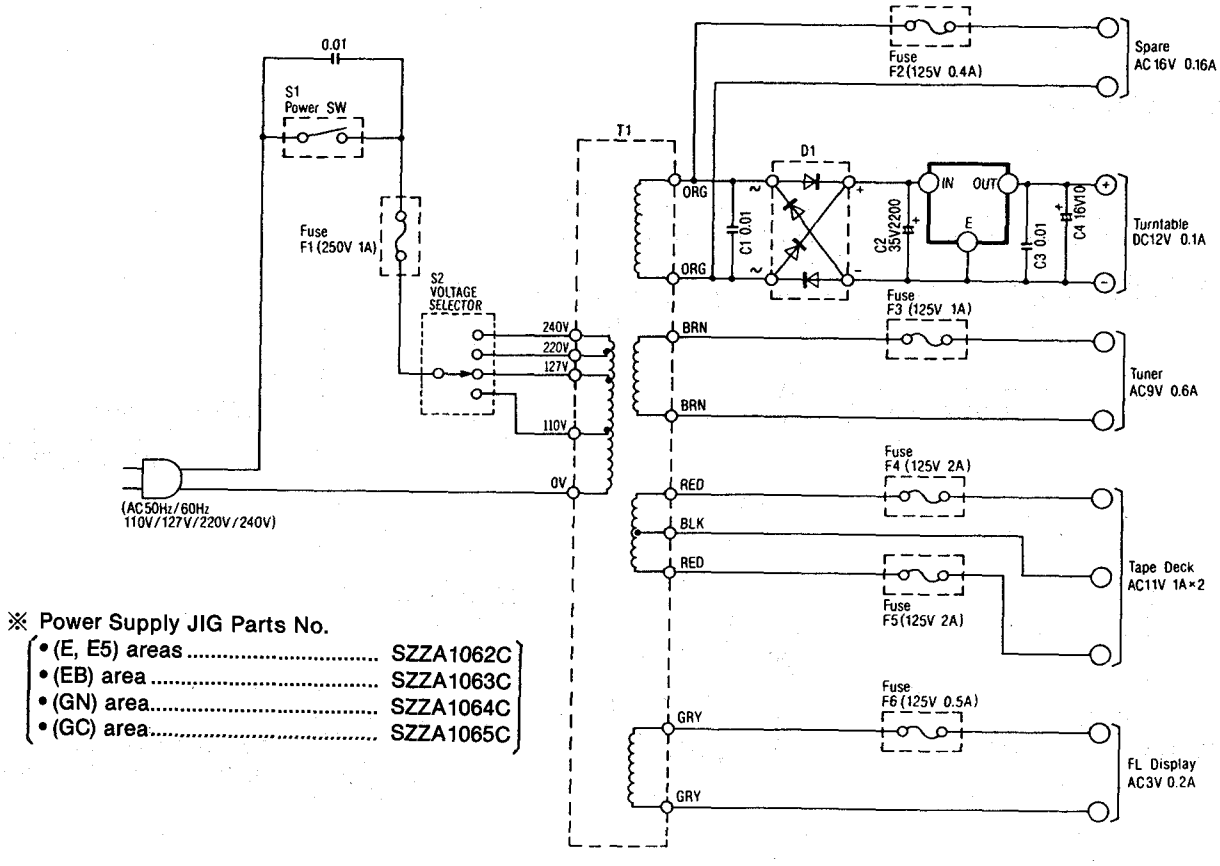
■ INFORMATION ON POWER SUPPLY JIG

• LOCATION



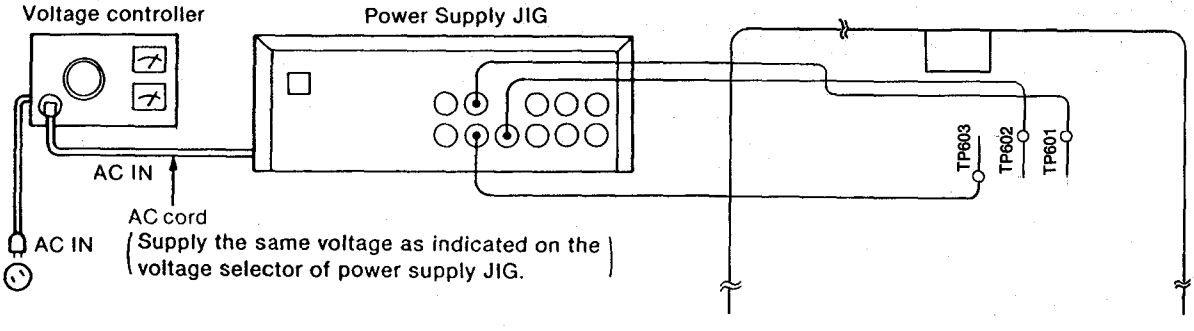
• SCHEMATIC DIAGRAM (Reference)



※ Power Supply JIG Parts No.

- (E, E5) areas SZZA1062C
- (EB) area SZZA1063C
- (GN) area..... SZZA1064C
- (GC) area..... SZZA1065C

• HOW TO CONNECT



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■ MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- Reverse-mode selector switch; ⇄
- Edit-recording tape-speed selector; X1
- Dolby NR switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C (68±9°F)

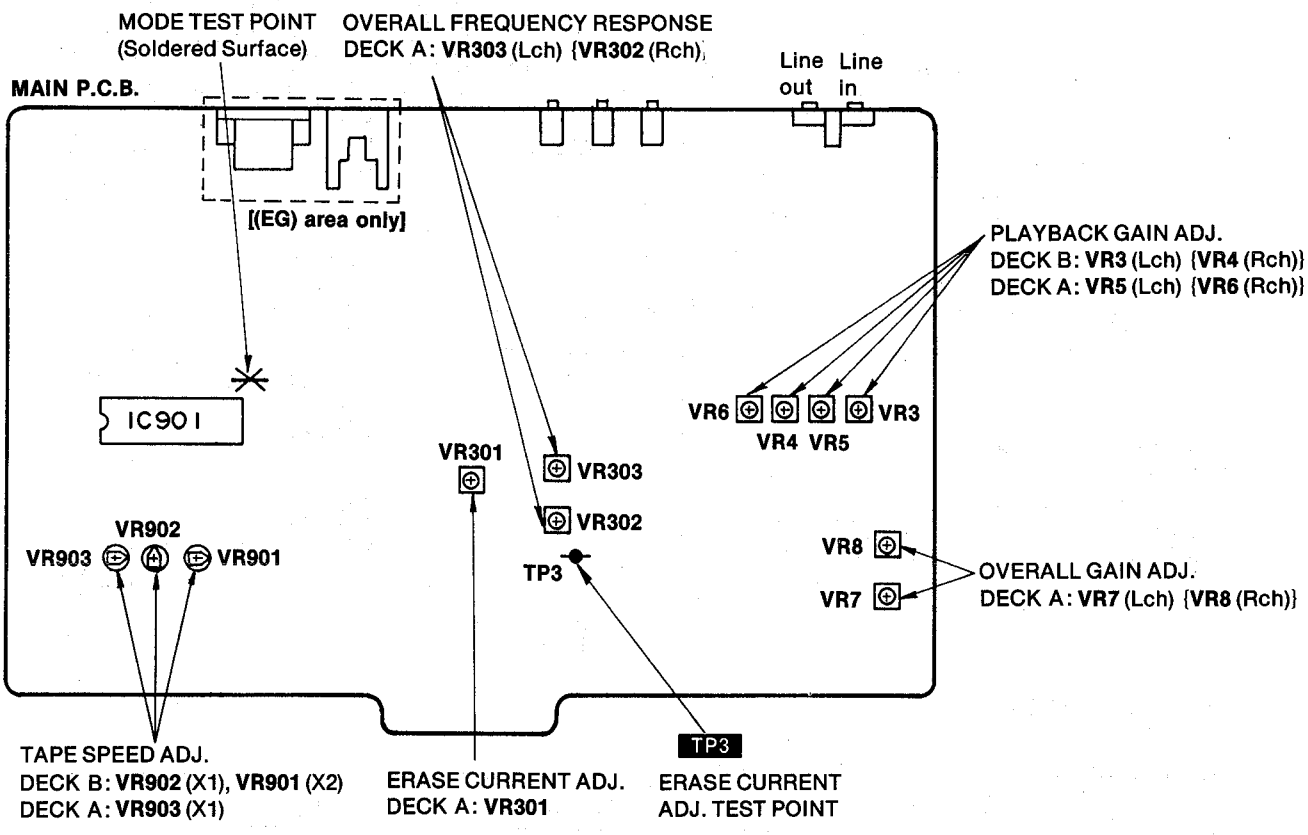
Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

Test tape

- Head azimuth adjustment (8kHz, −20dB); QZZCFM
- Tape speed adjustment (3kHz, −10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, −20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
  Normal reference blank tape ; QZZCRA
  CrO_2 reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

• Adjustment Points



HEAD AZIMUTH ADJUSTMENT (DECK A/B)

1. Playback the azimuth adjustment portion (8kHz, −20dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-CH and R-CH are maximized and the lissajous waveform, as illustrated, approaches 0 degrees.

Note: If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

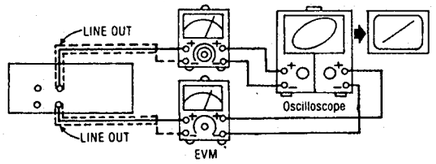


Fig. 1

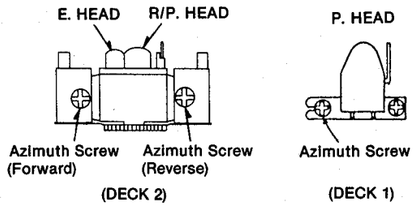


Fig. 2

TAPE SPEED ADJUSTMENT (DECK A/B)

Normal speed

1. Shift the edit-recording tape-speed selector to "**X1**" .
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust Deck B=**VR902** and Deck A=**VR903** so that the output is within the standard value.

High speed

4. Shift the edit-recording tape speed switch to "**X2**".
5. Playback the middle portion of the test tape (QZZCWAT).
6. Adjust Deck B=**VR901** so that the output is within the standard value.

Note: The Normal speed adjustment must be done before the High speed adjustment.

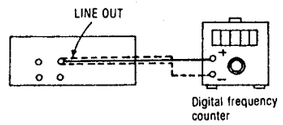


Fig. 3

(DECK A) Standard value: 3000±15Hz [Normal (X1)], 6000±600Hz [High (X2), only confirmation]
(DECK B) Standard value: 3000±15Hz [Normal (X1)], 6000±30Hz [High (X2)]

PLAYBACK GAIN ADJUSTMENT (DECK A/B)

1. Playback the gain adjusted portion (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck B= **VR3** (L-CH) [[**VR4** (R-CH)]] and Deck A=**VR5** (L-CH) [[**VR6** (R-CH)]] so that the output is within the standard value.

Standard value: 0.4V±0.5dB

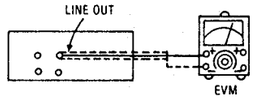


Fig. 4

PLAYBACK FREQUENCY RESPONSE (DECK A/B)

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, −20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in **Fig. 6** for both L-CH and R-CH.

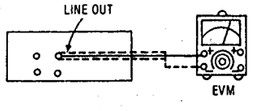


Fig. 5

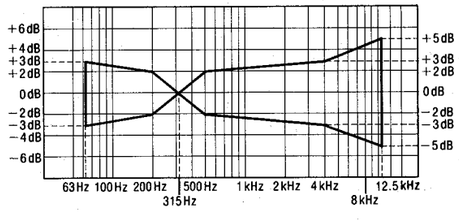


Fig. 6

ERASE CURRENT ADJUSTMENT (DECK A)

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Adjust **VR301** so that the output between **TP3** and GND is within the standard value.

Standard value: 190±5mA (Metal)...EVM Reading: 190±5mV

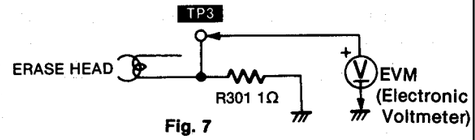


Fig. 7

OVERALL FREQUENCY RESPONSE (DECK A)

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record Pause mode.
2. Apply a reference input signal (1kHz, −24dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50Hz~10kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in **Fig. 8** in comparison to the reference frequency (1kHz).
6. If it is not within the standard range, adjust **VR303** (L-CH) and **VR302** (R-CH) so that the frequency level is within the standard range.
   - Level up in high frequency range .....Increase the bias current.
   - Level down in high frequency range ...Decrease the bias current.
7. Repeat steps 2~6 above using the CrO_2 tape (QZZCRX) and the Metal tape (QZZCRZ) increasing the frequency range to 12.5kHz (50Hz~12.5kHz).
8. Assure that the level is within the range shown in **Fig. 9**.

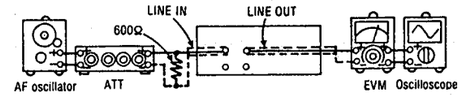


Fig. 10

Normal Overall frequency response chart (NR OUT)

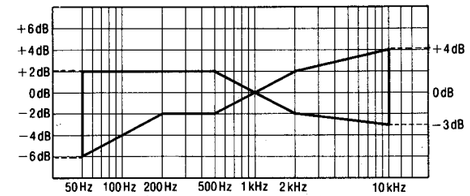


Fig. 8

CrO_2 Metal Overall frequency response chart (NR OUT)

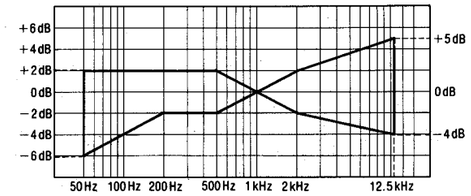


Fig. 9

OVERALL GAIN ADJUSTMENT (DECK A)

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record pause mode.
2. Apply a reference input signal (1kHz, −24dB). Attenuate the output so that its level becomes 0.4V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust **VR7** (L-CH) and **VR8** (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value: 0.4V±0.5dB

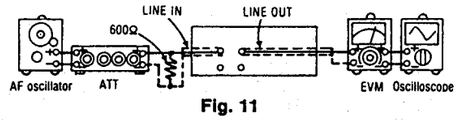


Fig. 11

D

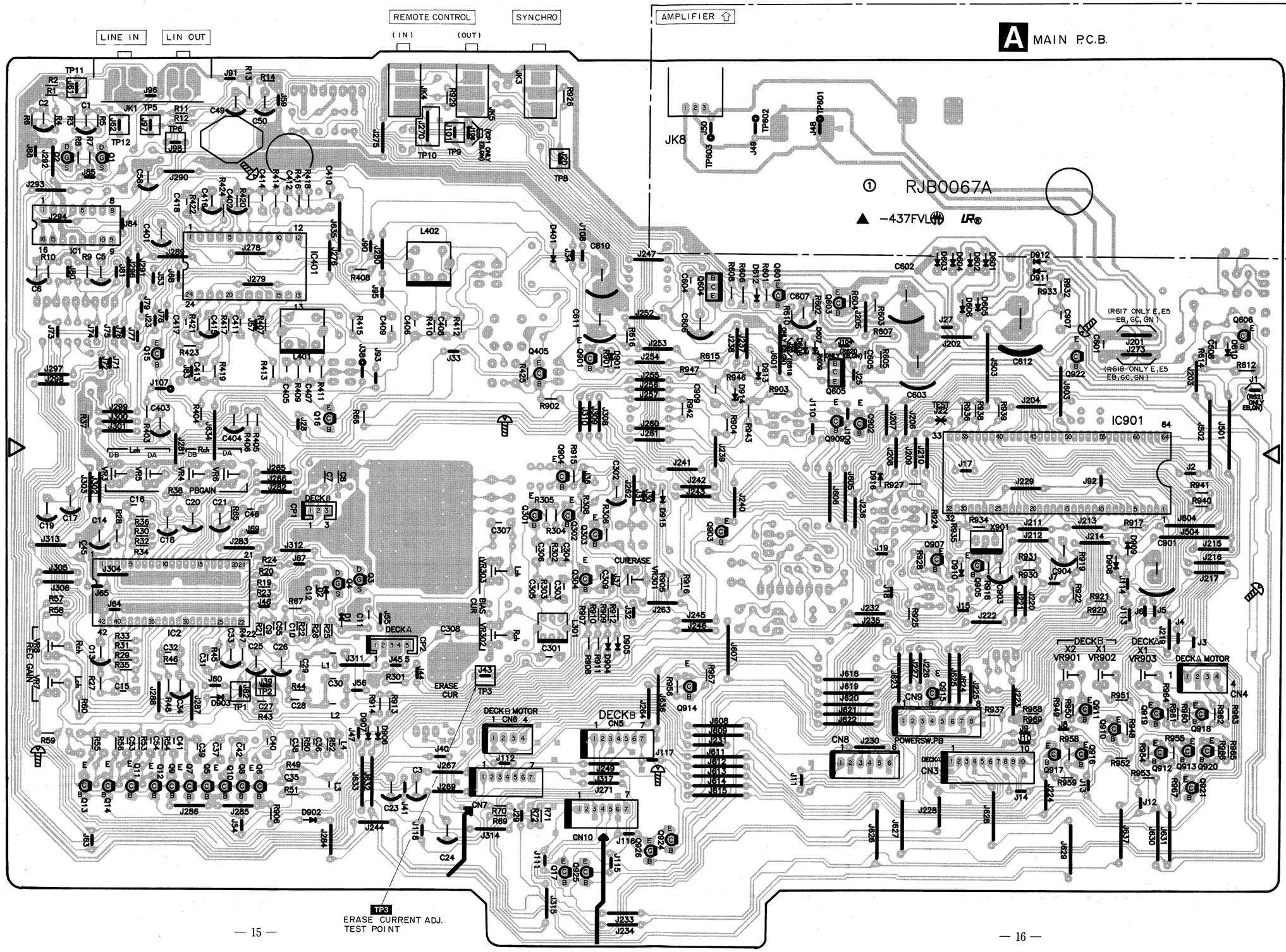
■ TERMINAL FUNCTION OF IC's

• IC901 (M50746-166SP): MICROCOMPUTER

Pin No.	Mark	I/O Division	Function
1	Vcc	I	Power supply terminal
2	AV_{SS}	—	• Connected to V_{SS}
3	V_{REF}	I	Standard voltage terminal (5V)
4	CRM	O	CUE/REV mute signal • "L" level in muting is off mode. • "H" level in muting is on mode.
5	$\overline{\text{DIR 2}}$	O	Direction indicator signal of deck A • "L" level with forward mode. • "OPEN" with reverse mode.
6	MMT	O	Mater mute control signal • "L" level in muting is off mode. • "OPEN" when muting is on mode.
7	LMT	O	Line out mute signal (Not used, open)
8	RMT 2	O	Rec. amp. mute signal of deck A • "L" level in mute is off mode. • "H" level in mute is on mode.
9	DMT	O	Line out mute signal (Not used) • "L" level in muting is off mode. • "OPEN" when muting is on mode.
10	REV 2	—	Connected to GND
11	REV 1	—	Connected to GND
12	KEY 2	I	Key switch scan (DECK A: STOP, F.F., REW, F. PLAY, R. PLAY, REC., PAUSE, S. START, X2, X1, DOLBY NR)
13	KEY 1	I	Key switch scan (DECK B: STOP, F.F., REW, PLAY)
14	$\overline{\text{PLAY 2}}$	O	Deck A Playback LED display/CUE, REV, LED display
15	$\overline{\text{PLAY 1}}$	O	Deck B Playback LED display/CUE, REV, LED display
16	$\overline{\text{ARM 2}}$	I	Auto Rec. mute terminal. "L"=KEY ON, "H"=KEY OFF
17	$\overline{\text{REC 1}}$	I	Not used.
18	$\overline{\text{REC 2}}$	O	Deck A Rec. mode LED display • "L" level in Deck A Rec. mode. • "H" level in other mode.
19	$\overline{\text{REM 2}}$	O	Deck A Remote control LED display • "L" level in LED on mode. • "H" level in LED off mode.
20	$\overline{\text{REM 1}}$	O	Deck B Remote control LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
21	RENA	O	B side select signal to CD player, used during CD synchro editing mode.
22	SYNC	I	Synchro start signal input from CD player
23	RCS	I	Remote control serial data
24	TREC	I	Timer rec terminal
25	TPLAY	I	Timer play terminal
26	POF	I	Primary AC power detection terminal
27	CNV_{SS}	—	Connected to GND
28	$\overline{\text{RESET}}$	I	Reset terminal • "L" level when reset is on mode. • "L" → "H" level when reset is off mode.
29	XIN	I	Clock OSC terminal
30	XOUT	O	
31	ϕ	I	Not used, open.
32	V_{SS}	—	Connected to GND
33	$\overline{\text{TEST}}$	—	Test terminal
34	PWIN	I	Power ON/OFF switch input • "L" level with power ON • "H" level with power OFF
35	REEL 1	I	Deck B Rotation pulse signal of reel table

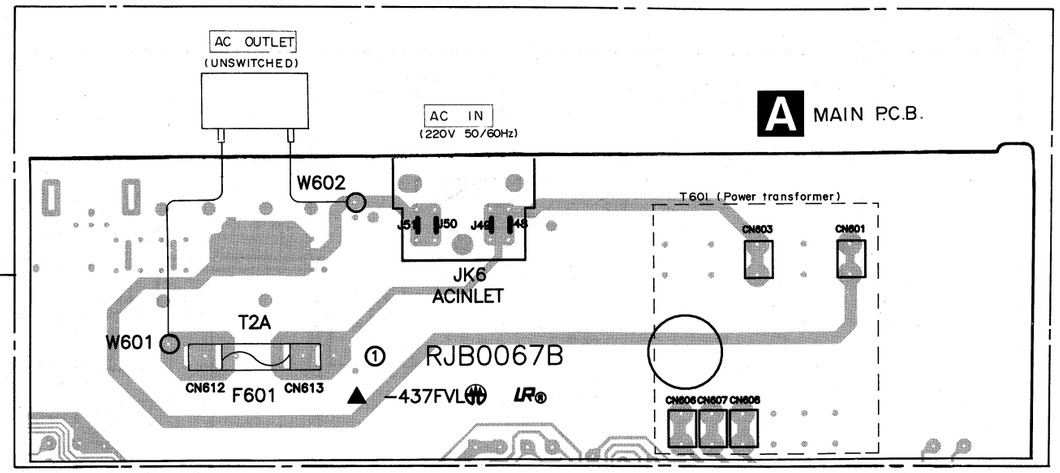
Pin No.	Mark	I/O Division	Function
36	REEL 2	I	Deck A Rotation pulse signal of reel table
37	RINH 2	I	Deck A Reverse Rec. Inh. switch select terminal
38	FINH 2	I	Deck A Forward Rec. Inh. switch select terminal
39	MODE 1	I	Deck B mechanism mode switch select termnal
40	HALF 1	I	Deck B cassette half detection switch • "L" level in half detection switch is on mode. • "H" level in half detection switch is off mode.
41	MPX	O	MPX filter IN/OUT control signal • "OPEN" with Dolby NR "IN" • "L" level with Dolby NR "OUT"
42	$\overline{\text{T2}}$	O	Deck A play select signal • "L" level with PLAY/CUE/REVIEW mode. • "H" level with any other mode.
43	$\overline{\text{X2}}$	O	X2 Speed LED display • "L" level when LED is on mode. • "OPEN" when other mode.
44	$\overline{\text{X1}}$	O	X1 Speed LED display • "L" level when LED is on mode. • "OPEN" when other mode.
45	T/S	I	Connected to GND
46	$\overline{\text{C}}$	O	Dolby C LED display • "L" level when LED is on mode. • "OPEN" when other mode. (Not used, open.)
47	$\overline{\text{B}}$	O	Dolby B LED display • "L" level when LED is on mode. • "OPEN" when other mode.
48	$\overline{\text{ENC}}$	O	Encode/Decode select signal • "L" level in encode mode. • "H" level in decode mode.
49	C/M	I	Deck B one-way mechanism select terminal (Connected to GND)
50	$\overline{\text{PWOUT}}$	O	Power ON/OFF output terminal
51	$\overline{\text{SDATA}}$	O	Serial data output (Not used, open)
52	P04 (∞)	O	Not used, open
53	P03 (⊂)	O	Not used, open
54	P02 (⇄)	O	Not used, open
55	DIR 1	O	Direction indicator signal of deck B (Not used, open)
56	FINH 1	I	Deck B Forward Rec. Inh. switch select terminal
57	HSP 1	O	Deck B Motor speed control signal • "L" level when normal speed (X1). • "H" level when high speed (X2).
58	SOL 1	O	Deck B Solenoid control signal • "H" level when solenoid is on mode. • "L" level when solenoid is off mode.
59	MOTOR 1	O	Deck B Motor control signal • "H" level when motor is on mode. • "L" level when motor is off mode.
60	MODE 2	I	Deck A mechanism mode switch select terminal
61	HALF 2	I	Deck A cassette half detection switch • "L" level in half detection switch in on mode. • "H" level in half detection switch in off mode.
62	HSP 2	O	Deck A Motor speed control signal • "H" level when normal speed (X1). • "L" level when high speed (X2).
63	SOL 2	O	Deck A Solenoid control signal • "H" level when solenoid is on mode. • "L" level when solenoid is off mode.
64	MOTOR 2	O	Deck A Motor control signal • "H" level when motor is on mode. • "L" level when motor is off mode.

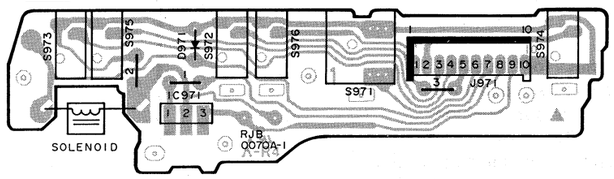
■ PRINTED CIRCUIT BOARDS

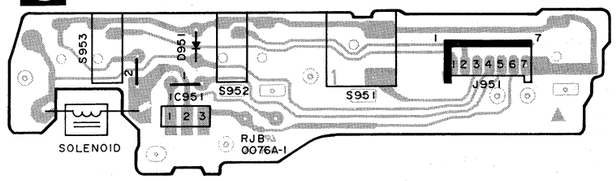


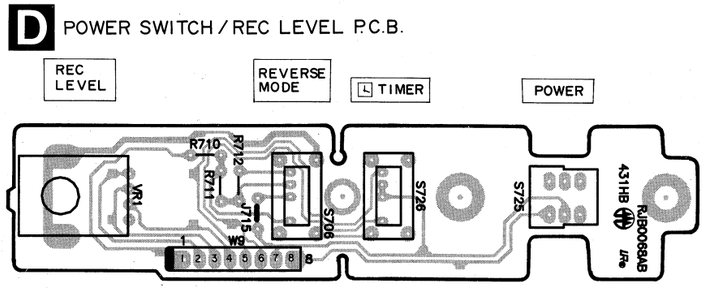
10 11 12 13 14 15 16 17 18 19

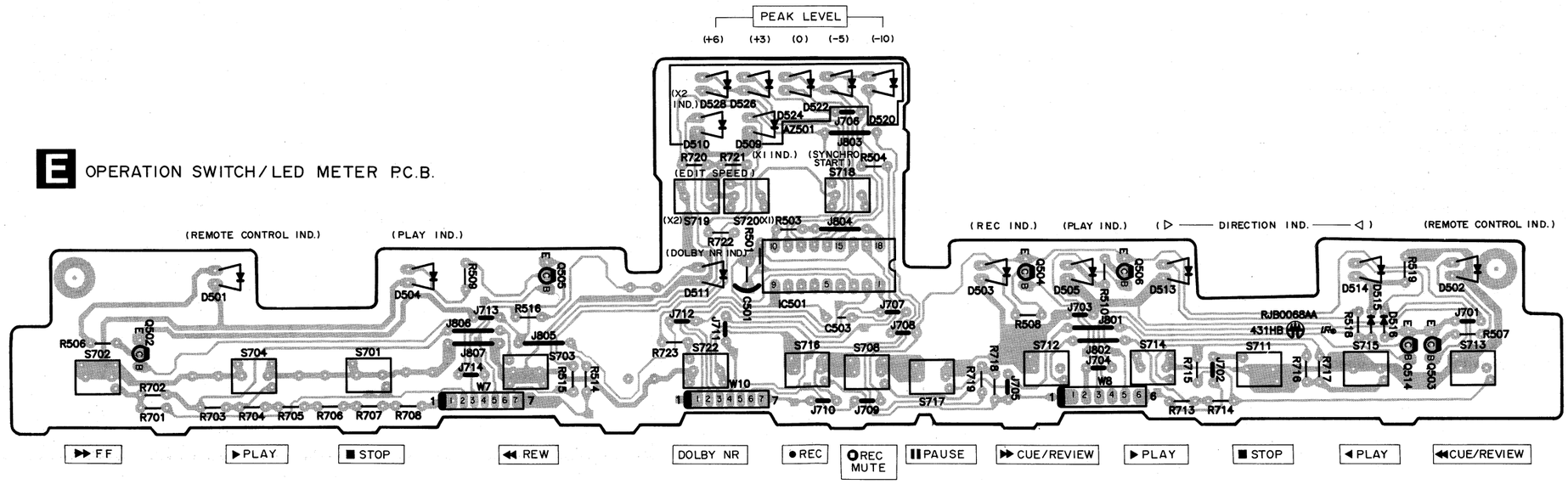
Power Source For (EG) area











■ SCHEMATIC DIAGRAM

(Parts list on pages 29~35.)

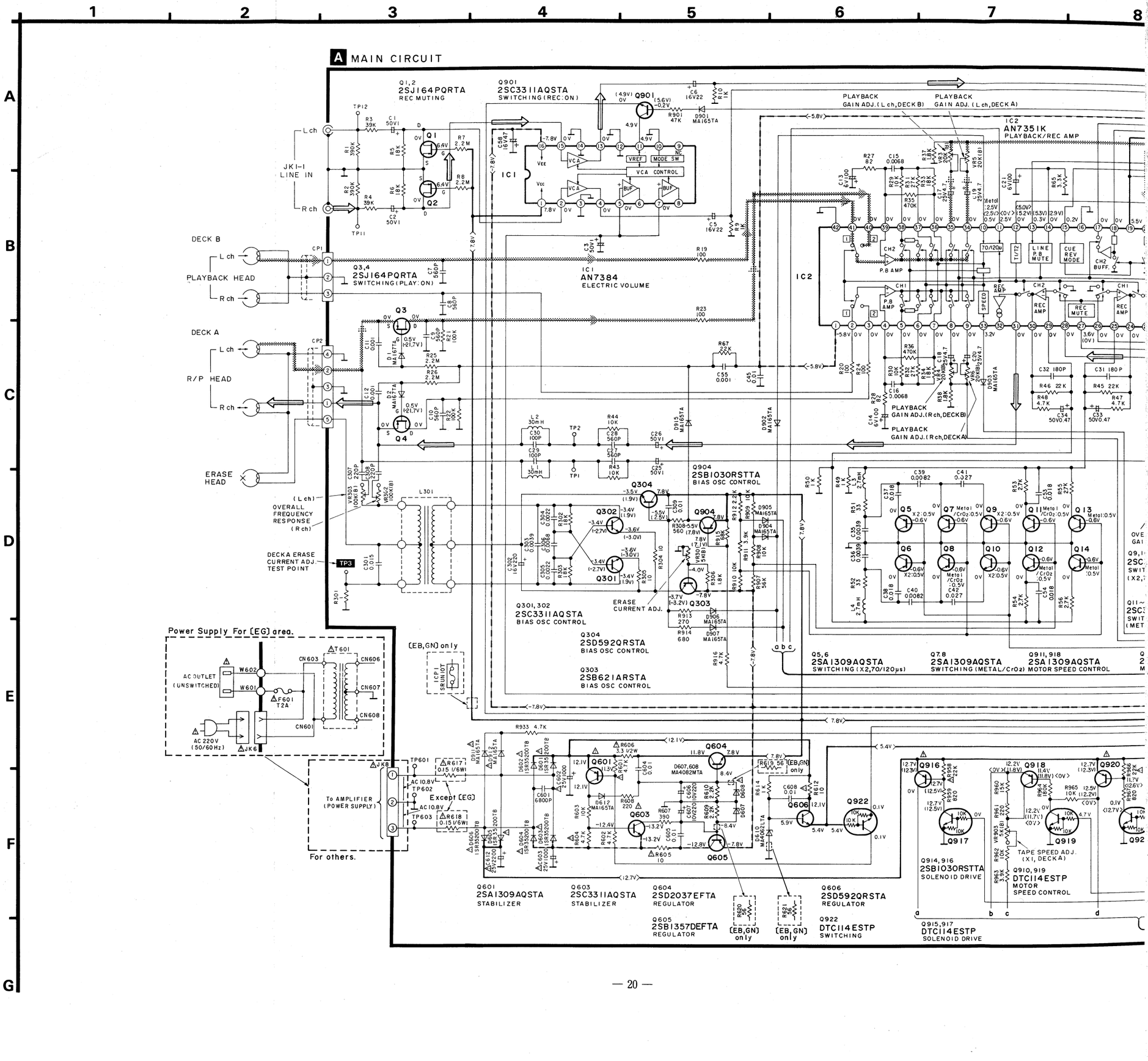
(This schematic diagram may be modified at any time with development of new technology.)

Notes:

- S701: DECK B Stop switch in "**off**" position.
- S702: DECK B F.F. switch in "**off**" position.
- S703: DECK B Rew. switch in "**off**" position.
- S704: DECK B Playback switch in "**off**" position.
- S706: Reverse mode selector switch in "**off**" position.
- S708: DECK A Auto rec. mute switch in "**off**" position.
- S711: DECK A Stop switch in "**off**" position.
- S712: DECK A F.F. switch in "**off**" position.
- S713: DECK A Rew. switch in "**off**" position.
- S714: DECK A For. Playback switch in "**off**" position.
- S715: DECK A Rev. Playback switch in "**off**" position.
- S716: DECK A Record switch in "**off**" position.
- S717: DECK A Pause switch in "**off**" position.
- S718: Synchro-start switch in "**off**" position.
- S719: Editing tape speed selector (X2) in "**off**" position.
- S720: Editing tape speed selector (X1) in "**off**" position.
- S722: Dolby NR switch in "**off**" position.
- S725: Power switch in "**on**" position.
- S726: Timer switch in "**off**" position.
- S951: DECK B Mode switch in "**off**" position.
- S952: DECK B Cassette half detection switch in "**off**" position.
- S953: DECK B ATS (CrO_2) switch in "**off**" position.
- S971: DECK A Mode switch in "**off**" position.
- S972: DECK A Cassette half detection switch in "**off**" position.
- S973: DECK A Rev. Rec Inhibit switch in "**off**" position.
- S974: DECK A For. Rec Inhibit switch in "**off**" position.
- S975: DECK A ATS (CrO_2) switch in "**off**" position.
- S976: DECK A ATS (Metal) switch in "**off**" position.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
  1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  ( )..... Voltage values at record mode.
  For measurement us EVM.
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- (▬▬ <+B> ▬▬) indicates +B (bias).
- (▬ ▬ <−B> ▬ ▬) indicates −B (bias).
- (▒▒▒) indicates the flow of the playback signal.
- (⇨) indicates the flow of the record signal.

∗ Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
∗ Cover the parts boxes made of plastics with aluminum foil.
∗ Ground the soldering iron.
∗ Put a conductive mat on the work table.
∗ Do not touch the legs of IC or LSI with the fingers directly.



7 8 9 10 11 12 13 14 15 16

IC2
AN7351K
PLAYBACK/REC AMP

PLAYBACK GAIN ADJ. (Lch, DECK A)

PLAYBACK GAIN ADJ. (Lch, DECK B)

PLAYBACK GAIN ADJ. (Rch, DECK B)

PLAYBACK GAIN ADJ. (Rch, DECK A)

OVERALL GAIN ADJ. (Lch)

OVERALL GAIN ADJ. (Rch)

Q905
2SC3311AQSTA
SWITCHING (RESET)

IC901
M50746-166SP
MICROCOMPUTER

TEST TERMINAL

TAPE SPEED ADJ. (X2, DECK B)

TAPE SPEED ADJ. (X1, DECK A)

TAPE SPEED ADJ. (X1, DECK B)

Q907
2SA1309AQSTA
SWITCHING (REMOTE)

Q903
DTA114ESTP
SWITCHING (X2)

Q17, 924, 925, 926
DTA114ESTP
SWITCHING

Q902, 909
DTA114ESTP
SWITCHING (ENCODE/DECODE, DOLBY)

Q7, 8
2SA1309AQSTA
SWITCHING (METAL/CrO2)

Q9, 10
2SC3311AQSTA
SWITCHING (X2, 70/120μs)

Q11~14
2SC3311AQSTA
SWITCHING (METAL/CrO2)

Q911, 918
2SA1309AQSTA
MOTOR SPEED CONTROL

Q912, 920
2SB621ARSTA
MOTOR DRIVE

Q914, 916
2SB1030RSTTA
SOLENOID DRIVE

Q910, 919
DTC114ESTP
MOTOR SPEED CONTROL

Q913, 921
DTC114ESTP
MOTOR DRIVE

Q915, 917
DTC114ESTP
SOLENOID DRIVE

B MECHANISM (DECK A) CIRCUIT

C MECHANISM (DECK B) CIRCUIT

D POWER SWITCH/REC LEVEL CIRCUIT

E OPERATION SWITCH/LED METER CIRCUIT

IC401
TEA0657
DOLBY NR

Q15,16
2SD1450RSTTA
MUTING

Q405
2SA1309AQSTA
SWITCHING
(R/P SELECT)

JK1-2
LINE OUT

L ch

R ch

JK3
SYNCHRO

JK4
IN
REMOTE CONTROL

JK5
OUT

IC501
AN6888
LED METER DRIVE

COMPARATOR

AZ501-1
LED BLOCK

D520,522,524,526,528
LN846RP-LS

Q502~506
DTA114ESTP
LED DRIVE

Q514
DTA114ESTP
LED DRIVE

D501 (REMOTE CONTROL DECK B)
D502 (REMOTE CONTROL DECK A)
D503 LN846RP-C (REC DECK A)
D504 (PLAY DECK B)
D505 (PLAY DECK A)

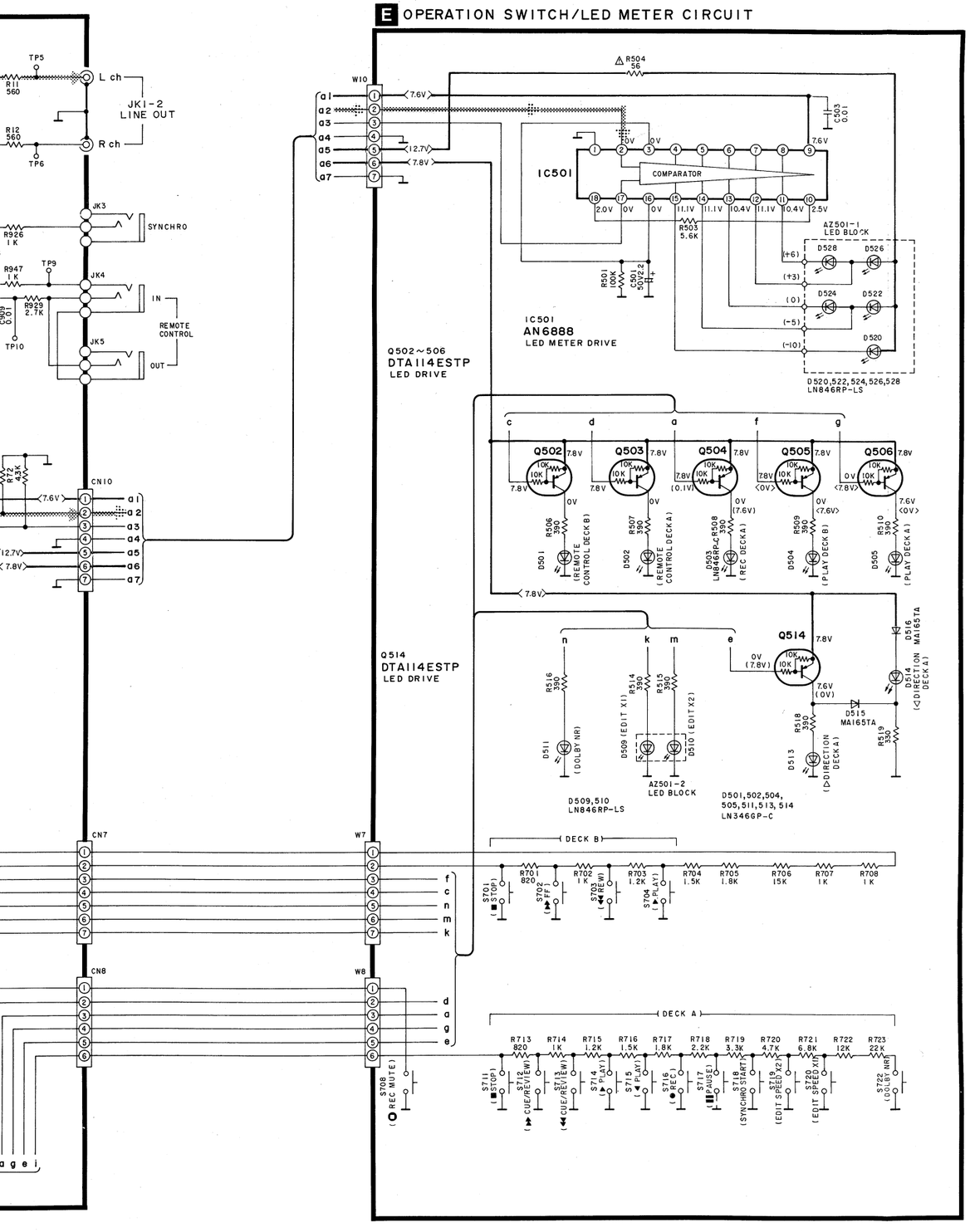
D511 (DOLBY NR)
D509 (EDIT X1)
D510 (EDIT X2)
AZ501-2
LED BLOCK
D509,510
LN846RP-LS

D513 (DIRECTION DECK A)
D514 (DIRECTION DECK A)
D515 MA165TA
D516 MA165TA

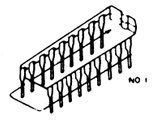
D501,502,504,505,511,513,514
LN3466P-C

S701 (■STOP)
S702 (▶FF)
S703 (◀REW)
S704 (▶PLAY)
S705 (◀PLAY)
S706 (●REC)
S707 (■STOP)
S708 (●REC MUTE)
S711 (■STOP)
S712 (▶CUE/REV/EW)
S713 (◀CUE/REV/EW)
S714 (▶PLAY)
S715 (◀PLAY)
S716 (●REC)
S717 (■STOP)
S718 (SYNCHRO START)
S719 (EDIT SELECT X2)
S720 (EDIT SELECT X1)
S722 (DOLBY NR)

E OPERATION SWITCH/LED METER CIRCUIT



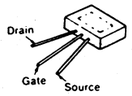
■ TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES



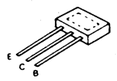
AN7384	16 Pin	AN7351K	42 Pin
AN6888	18 Pin	M50746-166SP	64 Pin
TEA0657	24 Pin		

DN6851A | 3 Pin

2SJ164PQRTA

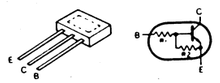


2SB621ARSTA
2SD592QRSTA

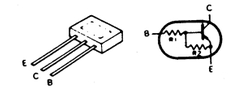


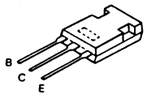
2SA1309AQSTA
2SC3311AQSTA
2SD1450RSTTA
2SB1030RSTTA

DTC114ESTP

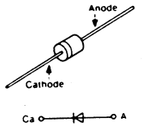


DTA114ESTP

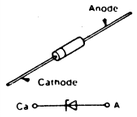




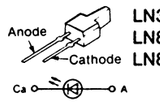
2SB1357DEFTA
2SD2037EFTA



MA167TA
MA165TA
1SR35200TB
1SS133



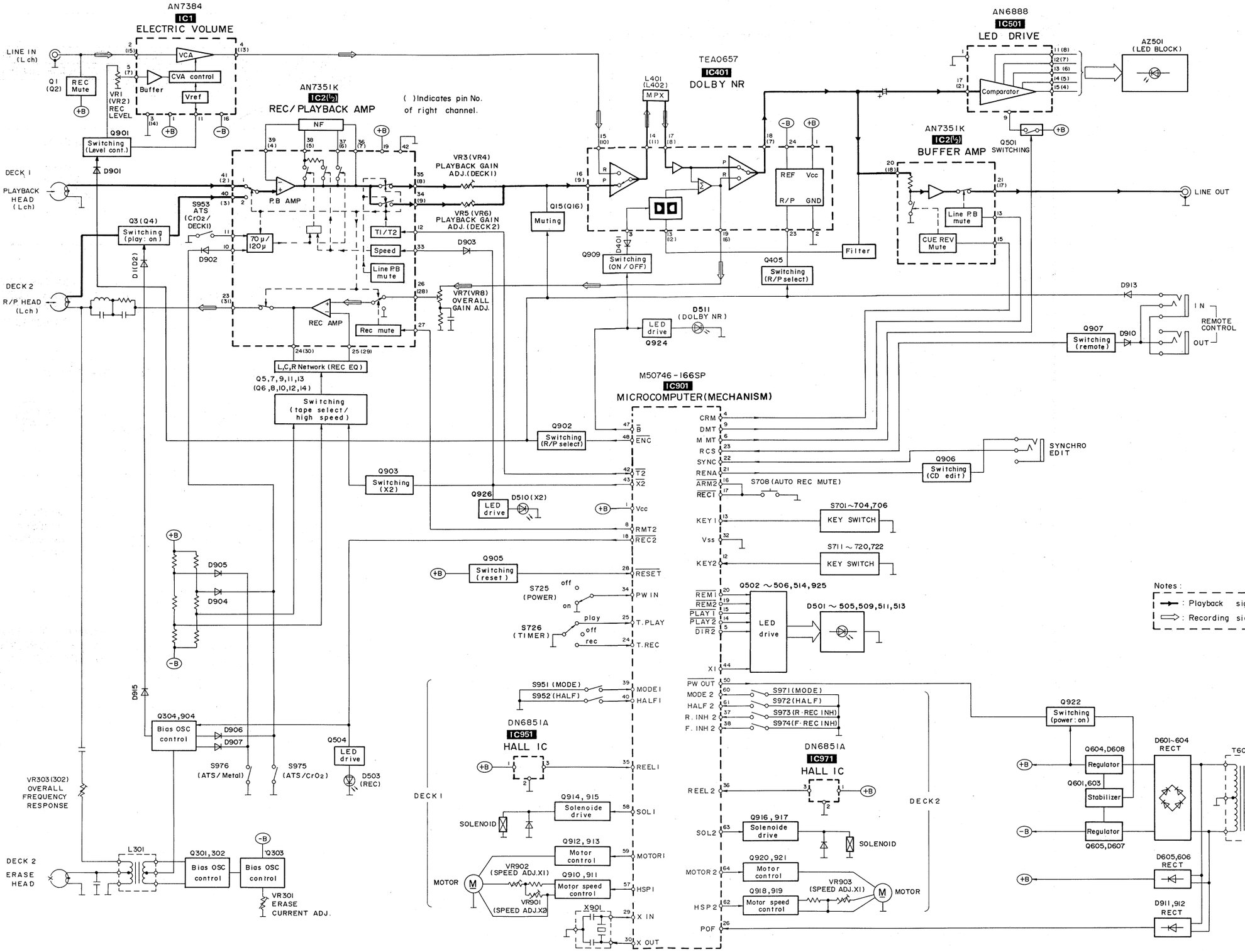
MA4062LTA
MA4082MTA
MA4051MTA

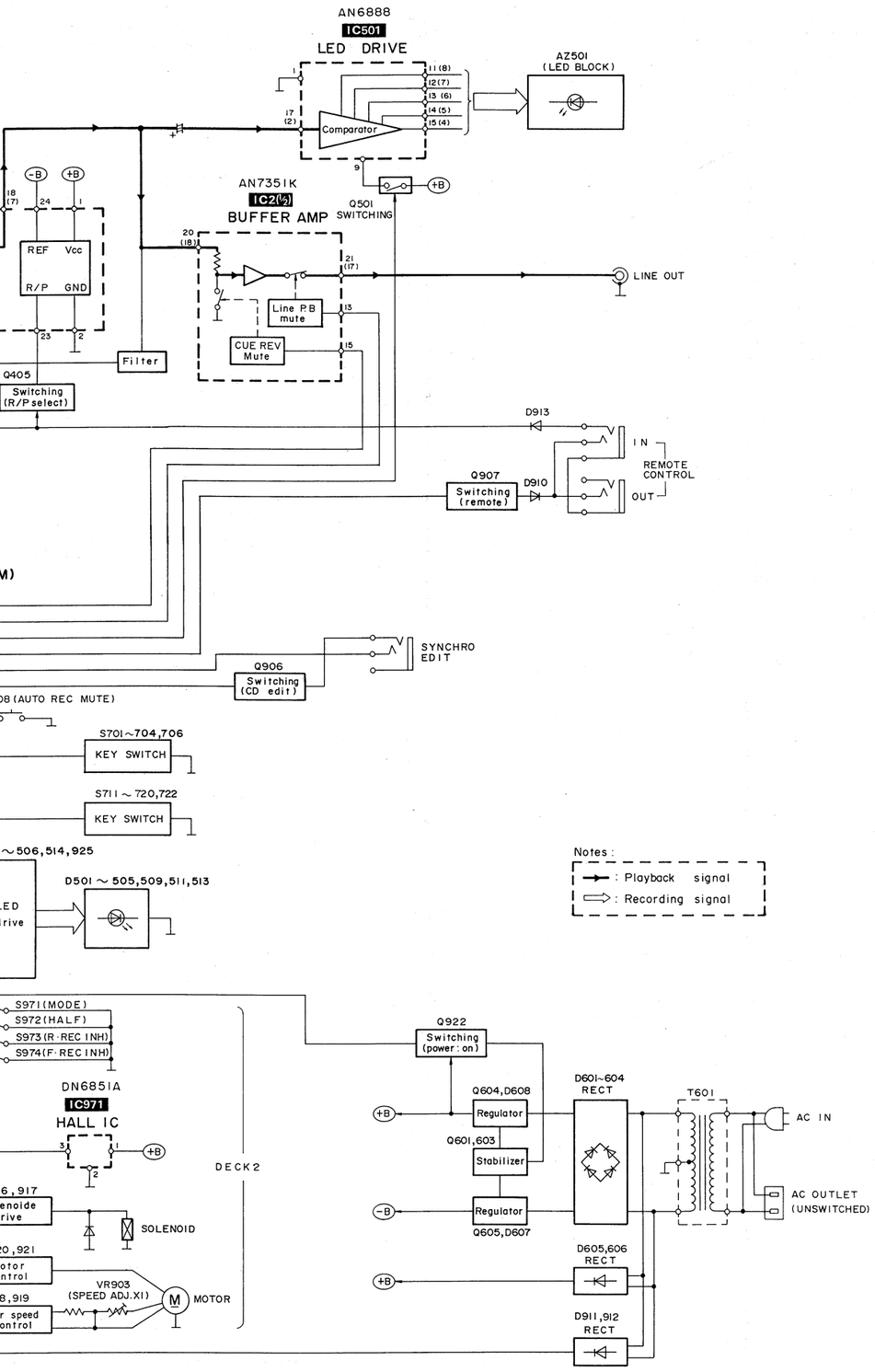


LN346GP-C (GREEN)
LN846RP-C (ORANGE)
LN846RP-LS (ORANGE)

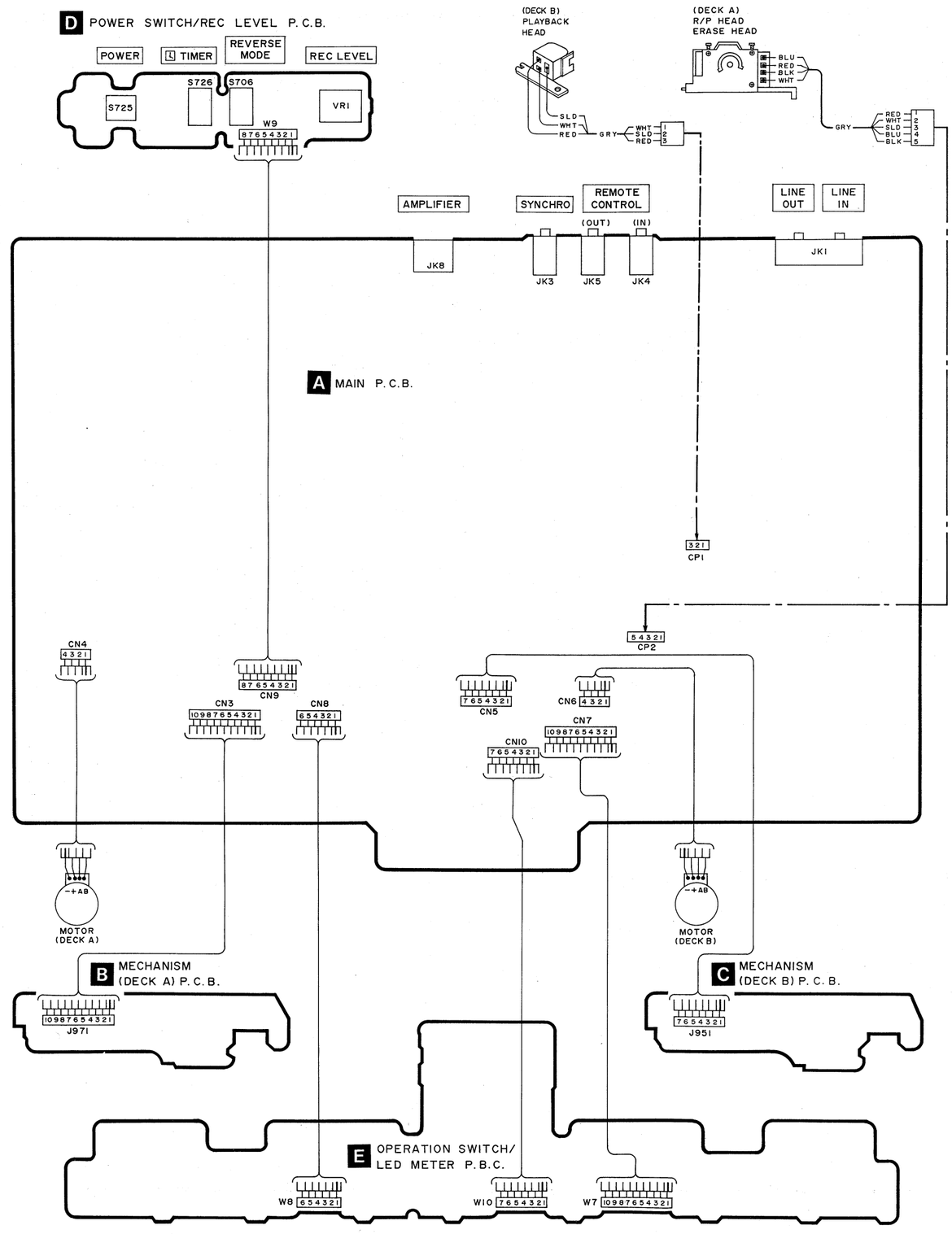
RS-X911

■ BLOCK DIAGRAM





■ WIRING CONNECTION DIAGRAM



■ RESISTORS & CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique
ECEA	50	M	330	
Type	Voltage (50V)	Characteristics	Value (33μF)	

● P=Pico-farads (pF), U=microfarads (μF).
● Resistance values are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 −20 %
ECQM	: Polyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R1	ERDS2TJ394T	C. RESISTOR 1/4W 390K	
R2	ERDS2TJ394T	C. RESISTOR 1/4W 390K	
R3	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R4	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R5	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R6	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R7	ERDS2TJ225	C. RESISTOR 1/4W 2.2M	
R8	ERDS2TJ225	C. RESISTOR 1/4W 2.2M	
R9	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R10	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R11	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R12	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R13	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R14	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R19	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R20	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R21	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R22	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R23	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R24	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R25	ERDS2TJ225	C. RESISTOR 1/4W 2.2M	
R26	ERDS2TJ225	C. RESISTOR 1/4W 2.2M	
R27	ERDS2TJ820T	C. RESISTOR 1/4W 82	
R28	ERDS2TJ820T	C. RESISTOR 1/4W 82	
R29	ERDS2TJ103T	C. RESISTOR 1/4W 10K	

Ref. No.	Part No.	Part Name & Description	Remarks
R30	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R31	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R32	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R33	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R34	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R35	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R36	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R37	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R38	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R43	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R44	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R45	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R46	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R47	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R48	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R49	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R50	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R51	ERDS2TJ330T	C. RESISTOR 1/4W 33	
R52	ERDS2TJ330T	C. RESISTOR 1/4W 33	
R53	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R54	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R55	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R56	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R57	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R58	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R59	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R60	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R65	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R66	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R67	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R69	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R70	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R71	ERDS2TJ432	C. RESISTOR 1/4W 4.3K	
R72	ERDS2TJ432	C. RESISTOR 1/4W 4.3K	
R301	ERDS2TJ1R0T	C. RESISTOR 1/4W 1.0	
R302	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R303	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R304	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R305	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R306	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R308	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R403	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R404	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R405	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R406	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R407	ERDS2TJ242	C. RESISTOR 1/4W 2.4K	
R408	ERDS2TJ242	C. RESISTOR 1/4W 2.4K	
R409	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R410	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R411	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R412	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R413	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R414	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R415	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R416	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R417	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R418	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R419	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R420	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R421	ERDS2TJ274T	C. RESISTOR 1/4W 270K	
R422	ERDS2TJ274T	C. RESISTOR 1/4W 270K	
R423	ERDS2TJ184	C. RESISTOR 1/4W 180K	
R424	ERDS2TJ184	C. RESISTOR 1/4W 180K	
R425	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R501	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R503	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R504	ERDS2TJ560	C. RESISTOR 1/4W 56	⚠
R506	ERDS2TJ391	C. RESISTOR 1/4W 390	
R507	ERDS2TJ391	C. RESISTOR 1/4W 390	
R508	ERDS2TJ391	C. RESISTOR 1/4W 390	
R509	ERDS2TJ391	C. RESISTOR 1/4W 390	
R510	ERDS2TJ391	C. RESISTOR 1/4W 390	
R514	ERDS2TJ391	C. RESISTOR 1/4W 390	
R515	ERDS2TJ391	C. RESISTOR 1/4W 390	
R516	ERDS2TJ391	C. RESISTOR 1/4W 390	
R518	ERDS2TJ391	C. RESISTOR 1/4W 390	
R519	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R601	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	⚠
R602	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R603	ERDS2TJ103T	C. RESISTOR 1/4W 10K	

Ref. No.	Part No.	Part Name & Description	Remarks
R604	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	⚠
R605	ERDS1FVJ100T	C. RESISTOR 1/2W 10	(E, E5, EG, GC) ⚠
R605	ERD2FCVG100T	C. RESISTOR 1/4W 10	(EB, GN) ⚠
R606	ERDS1FJ3R3	C. RESISTOR 1/2W 3.3	⚠
R607	ERDS2TJ391	C. RESISTOR 1/4W 390	
R608	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R609	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R610	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R612	ERDS1FVJ100T	C. RESISTOR 1/2W 10	(E, E5, EG, GC) ⚠
R612	ERD2FCVG100T	C. RESISTOR 1/4W 10	(EB, GN) ⚠
R614	ERDS2TJ102T	C. RESISTOR 1/4W 1K	⚠
R615	ERDS2TJ680T	C. RESISTOR 1/4W 68	
R616	ERDS2TJ680T	C. RESISTOR 1/4W 68	
R617	ERQ16NKR15E	F. RESISTOR 1/6W 0.15	(E, E5, EB, GC, GN) ⚠
R618	ERQ16NKR15E	F. RESISTOR 1/6W 0.15	(E, E5, EB, GC, GN) ⚠
R619	ERDS2TJ560	C. RESISTOR 1/4W 56	(EB, GN)
R620	ERDS2TJ560	C. RESISTOR 1/4W 56	(EB, GN)
R621	ERDS2TJ560	C. RESISTOR 1/4W 56	(EB, GN)
R701	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R702	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R703	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R704	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R705	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R706	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R707	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R708	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R710	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R711	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R712	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R713	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R714	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R715	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R716	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R717	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R718	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R719	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R720	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R721	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R722	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R723	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R901	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R902	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R903	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R904	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R905	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R906	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R907	ERDS2TJ563	C. RESISTOR 1/4W 56K	
R908	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R909	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R910	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R911	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R912	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	

Ref. No.	Part No.	Part Name & Description	Remarks
R913	ERDS2TJ271T	C. RESISTOR 1/4W 270	
R914	ERDS2TJ681T	C. RESISTOR 1/4W 680	
R915	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R916	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R917	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R918	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R919	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R920	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R921	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R922	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R924	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R925	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R926	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R927	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R928	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R929	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R930	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R931	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R932	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R933	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R934	ERDS2TJ105T	C. RESISTOR 1/4W 1M	
R935	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R936	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R937	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R938	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R939	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R940	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R941	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R942	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R943	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R946	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R947	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R948	ERDS2TJ184	C. RESISTOR 1/4W 180K	
R949	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R950	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R951	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R952	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R953	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R954	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R955	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R956	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R957	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R958	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R959	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R960	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R961	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R962	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R963	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R964	ERDS2TJ184	C. RESISTOR 1/4W 180K	
R965	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R966	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R967	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R968	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R969	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
		CAPACITORS	
C1	ECEA1HK010B	E. CAPACITOR 50V 1U	
C2	ECEA1HK010B	E. CAPACITOR 50V 1U	
C3	ECEA1HK010B	E. CAPACITOR 50V 1U	
C5	ECEA1CK220B	E. CAPACITOR 16V 22U	
C6	ECEA1CK220B	E. CAPACITOR 16V 22U	
C7	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C8	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C9	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C10	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C11	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C12	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C13	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C14	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C15	ECQB1H682JZ3	P. CAPACITOR 50V 6800P	
C16	ECQB1H682JZ3	P. CAPACITOR 50V 6800P	
C17	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C18	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C19	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C20	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C21	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C23	ECEA1HK010B	E. CAPACITOR 50V 1U	
C24	ECEA1HK010B	E. CAPACITOR 50V 1U	
C25	ECEA1HK010B	E. CAPACITOR 50V 1U	
C26	ECEA1HK010B	E. CAPACITOR 50V 1U	
C27	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C28	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C29	ECKD2H101KB	C. CAPACITOR 500V 100P	
C30	ECKD2H101KB	C. CAPACITOR 500V 100P	
C31	ECCT1H181K	C. CAPACITOR 50V 180P	
C32	ECCT1H181K	C. CAPACITOR 50V 180P	
C33	ECEA1HKR47	E. CAPACITOR 50V 0.47U	
C34	ECEA1HKR47	E. CAPACITOR 50V 0.47U	
C35	ECQB1H392JZ3	P. CAPACITOR 50V 3900P	
C36	ECQB1H392JZ3	P. CAPACITOR 50V 3900P	
C37	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C38	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C39	ECQB1H822JZ3	P. CAPACITOR 50V 8200P	
C40	ECQB1H822JZ3	P. CAPACITOR 50V 8200P	
C41	ECQB1H273JZ3	P. CAPACITOR 50V 0.027U	
C42	ECQB1H273JZ3	P. CAPACITOR 50V 0.027U	
C45	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C46	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C49	ECEA1CK100B	E. CAPACITOR 16V 10U	
C50	ECEA1CK100B	E. CAPACITOR 16V 10U	
C53	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C54	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C55	ECBT1H102KB5	C. CAPACITOR 50V 1000P	

Ref. No.	Part No.	Part Name & Description	Remarks
C58	ECEA1CU470	E. CAPACITOR 16V 47U	
C301	ECQP1153JZ	P. CAPACITOR 50V 0.015U	
C302	ECEA1CU221B	E. CAPACITOR 16V 220U	
C303	ECKD1H392K	C. CAPACITOR 50V 3900P	
C304	ECFR1E222KAY	S. CAPACITOR 25V 2200P	
C305	ECFR1E222KAY	S. CAPACITOR 25V 2200P	
C306	ECFR1E682KAY	S. CAPACITOR 25V 6800P	
C307	ECCT1H221K	C. CAPACITOR 50V 220P	
C308	ECCT1H221K	C. CAPACITOR 50V 220P	
C309	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C401	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C402	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C403	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C404	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C405	ECKD1H122KB	C. CAPACITOR 50V 1200P	
C406	ECKD1H122KB	C. CAPACITOR 50V 1200P	
C407	ECKT1H152KB	C. CAPACITOR 50V 1500P	
C408	ECKT1H152KB	C. CAPACITOR 50V 1500P	
C409	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C410	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C411	ECQB1H333JZ3	P. CAPACITOR 50V 0.033U	
C412	ECQB1H333JZ3	P. CAPACITOR 50V 0.033U	
C413	ECQV1H473JZ	P. CAPACITOR 50V 0.047U	
C414	ECQV1H473JZ	P. CAPACITOR 50V 0.047U	
C415	ECEA1HKR33	E. CAPACITOR 50V 0.33U	
C416	ECEA1HKR33	E. CAPACITOR 50V 0.33U	
C417	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U	
C418	ECQV1H104JZ3	P. CAPACITOR 50V 0.1U	
C501	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C503	ECBT1E103ZF	C. CAPACITOR 25V 0.01U	
C601	ECKT2H682PEL	C. CAPACITOR 500V 6800P	⚠
C602	ECEA1EU102B	E. CAPACITOR 25V 1000U	⚠
C603	ECEA1EU102B	E. CAPACITOR 25V 1000U	⚠
C604	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C605	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C606	ECEA1AU221B	E. CAPACITOR 10V 220U	
C607	ECEA1AU221B	E. CAPACITOR 10V 220U	
C608	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C610	ECEA0JU221B	E. CAPACITOR 6.3V 220U	
C611	ECEA0JU221B	E. CAPACITOR 6.3V 220U	
C612	ECEA1EU222E	E. CAPACITOR 25V 2200U	⚠
C901	ECEA0JU222B	E. CAPACITOR 6.3V 2200U	
C903	ECEA1HK010B	E. CAPACITOR 50V 1U	
C904	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C907	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C909	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC1	AN7384	IC, ELECTRIC VOLUME	
IC2	AN7351K	IC, PLAYBACK/REC AMP	
IC401	TEA0657	IC, DOLBY NR	
IC501	AN6888	IC, LED METER DRIVE	
IC901	M50746-166SP	IC, MICROCOMPUTER	
IC951	DN6851A	IC, HALL	
IC971	DN6851A	IC, HALL	
		TRANSISTORS	
Q1	2SJ164PQRTA	TRANSISTOR	
Q2	2SJ164PQRTA	TRANSISTOR	
Q3	2SJ164PQRTA	TRANSISTOR	
Q4	2SJ164PQRTA	TRANSISTOR	
Q5	2SA1309AQSTA	TRANSISTOR	
Q6	2SA1309AQSTA	TRANSISTOR	
Q7	2SA1309AQSTA	TRANSISTOR	
Q8	2SA1309AQSTA	TRANSISTOR	
Q9	2SC3311A-Q	TRANSISTOR	
Q10	2SC3311A-Q	TRANSISTOR	
Q11	2SC3311A-Q	TRANSISTOR	
Q12	2SC3311A-Q	TRANSISTOR	
Q13	2SC3311A-Q	TRANSISTOR	
Q14	2SC3311A-Q	TRANSISTOR	
Q15	2SD1450RSTTA	TRANSISTOR	
Q16	2SD1450RSTTA	TRANSISTOR	
Q17	DTA114ESTP	TRANSISTOR	
Q301	2SC3311A-Q	TRANSISTOR	
Q302	2SC3311A-Q	TRANSISTOR	
Q303	2SB621ARSTA	TRANSISTOR	
Q304	2SD592QRSTA	TRANSISTOR	
Q405	2SA1309AQSTA	TRANSISTOR	
Q502	DTA114ESTP	TRANSISTOR	
Q503	DTA114ESTP	TRANSISTOR	
Q504	DTA114ESTP	TRANSISTOR	
Q505	DTA114ESTP	TRANSISTOR	
Q506	DTA114ESTP	TRANSISTOR	
Q514	DTA114ESTP	TRANSISTOR	
Q601	2SA1309AQSTA	TRANSISTOR	⚠
Q603	2SC3311A-Q	TRANSISTOR	⚠
Q604	2SD2037EFTA	TRANSISTOR	
Q605	2SB1357DEFTA	TRANSISTOR	
Q606	2SD592QRSTA	TRANSISTOR	
Q901	2SC3311A-Q	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q902	DTA114ESTP	TRANSISTOR	
Q903	DTA114ESTP	TRANSISTOR	
Q904	2SB1030RSTTA	TRANSISTOR	
Q905	2SC3311A-Q	TRANSISTOR	
Q907	2SA1309AQSTA	TRANSISTOR	
Q909	DTA114ESTP	TRANSISTOR	
Q910	DTC114ESTP	TRANSISTOR	
Q911	2SA1309AQSTA	TRANSISTOR	
Q912	2SB621ARSTA	TRANSISTOR	⚠
Q913	DTC114ESTP	TRANSISTOR	
Q914	2SB1030RSTTA	TRANSISTOR	⚠
Q915	DTC114ESTP	TRANSISTOR	
Q916	2SB1030RSTTA	TRANSISTOR	⚠
Q917	DTC114ESTP	TRANSISTOR	
Q918	2SA1309AQSTA	TRANSISTOR	
Q919	DTC114ESTP	TRANSISTOR	
Q920	2SB621ARSTA	TRANSISTOR	⚠
Q921	DTC114ESTP	TRANSISTOR	
Q922	DTC114ESTP	TRANSISTOR	
Q924	DTA114ESTP	TRANSISTOR	
Q925	DTA114ESTP	TRANSISTOR	
Q926	DTA114ESTP	TRANSISTOR	
		DIODES	
D1	MA167TA	DIODE	
D2	MA167TA	DIODE	
D401	MA165TA	DIODE	
D501	LN346GP-C	L. E. D	
D502	LN346GP-C	L. E. D	
D503	LN846RP-C	L. E. D	
D504	LN346GP-C	L. E. D	
D505	LN346GP-C	L. E. D	
D509	LN846RP-LS	L. E. D	
D510	LN846RP-LS	L. E. D	
D511	LN346GP-C	L. E. D	
D513	LN346GP-C	L. E. D	
D514	LN346GP-C	L. E. D	
D515	MA165TA	DIODE	
D516	MA165TA	DIODE	
D520	LN846RP-LS	L. E. D	
D522	LN846RP-LS	L. E. D	
D524	LN846RP-LS	L. E. D	
D526	LN846RP-LS	L. E. D	
D528	LN846RP-LS	L. E. D	
D601	1SR35200TB	DIODE	⚠
D602	1SR35200TB	DIODE	⚠

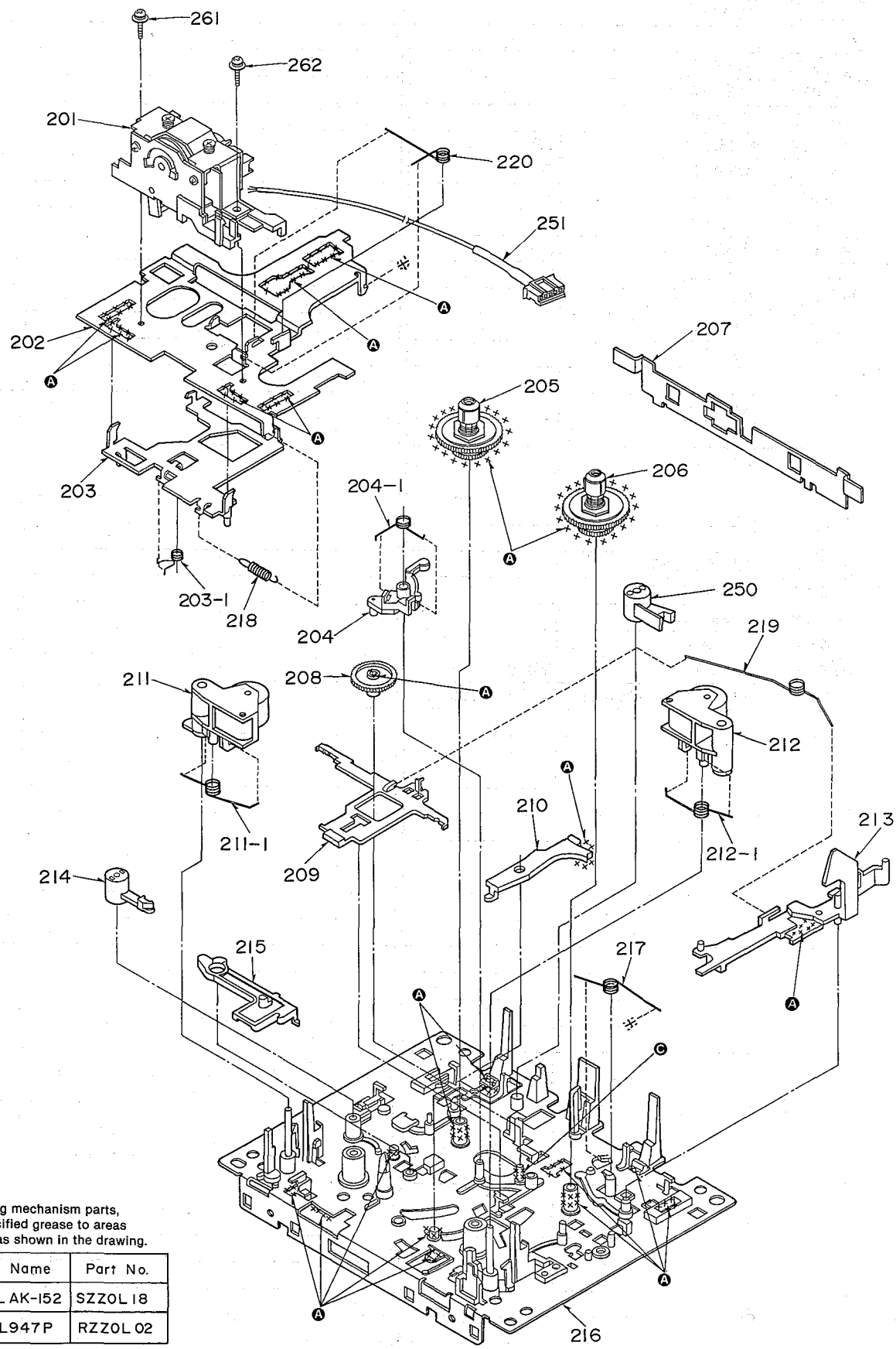
Ref. No.	Part No.	Part Name & Description	Remarks
D603	1SR35200TB	DIODE	⚠
D604	1SR35200TB	DIODE	⚠
D605	1SR35200TB	DIODE	⚠
D606	1SR35200TB	DIODE	⚠
D607	MA4082MTA	DIODE	
D608	MA4082MTA	DIODE	
D610	MA4062LTA	DIODE	
D612	MA165TA	DIODE	
D901	MA165TA	DIODE	
D902	MA165TA	DIODE	
D903	MA165TA	DIODE	
D904	MA165TA	DIODE	
D905	MA165TA	DIODE	
D906	MA165TA	DIODE	
D907	MA165TA	DIODE	
D908	1SR35200TB	DIODE	
D909	MA165TA	DIODE	
D910	MA165TA	DIODE	
D911	MA165TA	DIODE	⚠
D912	MA165TA	DIODE	⚠
D913	MA165TA	DIODE	
D914	MA4051MTA	DIODE	
D915	MA165TA	DIODE	
D916	MA165TA	DIODE	
D951	1SS133	DIODE	
D971	1SS133	DIODE	
		I. C. PROTECTORS	
ICP1	SRUN10T	I. C. PROTECTOR	(EB, GN)
		VARIABLE RESISTORS	
VR1	EVJ02FF01B15	V. R, REC. LEVEL CONTROL	
VR3	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR4	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR5	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR6	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR7	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR8	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR301	EVNDXAA00B53	V. R, ERASE CURRENT ADJ.	
VR302	EVNDXAA00B15	V. R, OVERALL FREQ. ADJ.	
VR303	EVNDXAA00B15	V. R, OVERALL FREQ. ADJ.	
VR901	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X2)	
VR902	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
VR903	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
		COILS	
L1	SLQX303-1KT	COIL	
L2	SLQX303-1KT	COIL	
L3	SLQX272-1YT	COIL	

Ref. No.	Part No.	Part Name & Description	Remarks
L4	SLQX272-1YT	COIL	
L301	SL09B4-K	COIL	
L401	QLM9Z10K	COIL	
L402	QLM9Z10K	COIL	
		OSCILLATORS	
X901	EF0GC4004T4	CERAMIC FILTER	
		TRANSFORMERS	
T601	SLT5K252K	POWER TRANSFORMER	(EG) ⚠
		FUSES	
F601	XBA2C20TB0	FUSE	(EG) ⚠
		SWITCHES	
S701	EVQQB005R	SW, STOP (DECK B)	
S702	EVQQB005R	SW, F. F. (DECK B)	
S703	EVQQB005R	SW, REW. (DECK B)	
S704	EVQQB005R	SW, PLAYBACK (DECK B)	
S706	SSS180-1	SW, REVERSE MODE	
S708	EVQQB005R	SW, AUTO REC MUTE (DECK A)	
S711	EVQQB005R	SW, STOP (DECK A)	
S712	EVQQB005R	SW, F. F. (DECK A)	
S713	EVQQB005R	SW, REW. (DECK A)	
S714	EVQQB005R	SW, F. PLAYBACK (DECK A)	
S715	EVQQB005R	SW, R. PLAYBACK (DECK A)	
S716	EVQQB005R	SW, REC. (DECK A)	
S717	EVQQB005R	SW, PAUSE (DECK A)	
S718	EVQQB005R	SW, SYNCHRO-START	
S719	EVQQB005R	SW, X2 SPEED	
S720	EVQQB005R	SW, X1 SPEED	
S722	EVQQB005R	SW, DOLBY NR	
S725	RSP2B005-J	SW, POWER	⚠
S726	SSS180-1	SW, TIMER	
		LED BLOCK	
AZ501	LN078479P	LED BLOCK ASS'Y	
		CONNECTORS AND SOCKETS	
CN3	SJSD1005	CONNECTOR(10P)	
CN4	RJS1A1704	CONNECTOR(4P)	
CN5	SJSD0705	CONNECTOR(7P)	
CN6	RJS1A1704	CONNECTOR(4P)	
CN7	SJSD0705	CONNECTOR(7P)	
CN8			
┌CN8A	RJS1A1703	CONNECTOR(3P)	

Ref. No.	Part No.	Part Name & Description	Remarks
CN8B	RJS1A1703	CONNECTOR(3P)	
CN9			
CN9A	RJS1A1704	CONNECTOR(4P)	
CN9B	RJS1A1704	CONNECTOR(4P)	
CN10	SJSD0705	CONNECTOR(7P)	
CN601	RJS1A1101	SOCKET(1P)	(EG)
CN603	RJS1A1101	SOCKET(1P)	(EG)
CN606	RJS1A1101	SOCKET(1P)	(EG)
CN607	RJS1A1101	SOCKET(1P)	(EG)
CN608	RJS1A1101	SOCKET(1P)	(EG)
CN612	VJF0756	FUSE HOLDER	(EG)
CN613	VJF0756	FUSE HOLDER	(EG)
CP1	SJTD313	CONNECTOR(3P)	
CP2	SJTD513	CONNECTOR(5P)	
		GND PARTS	
E1	SNE1004	GND PLATE	
		JACKS	
JK1	SJF3069N	TERMINAL BOARD	
JK3	RJJ33T01	M3 JACK (BLACK)	
JK4	RJJ33TR01	M3 JACK (RED)	
JK5	RJJ33TR01	M3 JACK (RED)	
JK6	SJS9236	AC INLET	(EG) ⚠
JK8	SJS306	SOCKET (3P) TO AMPLIFIER	(E, E5, EB, GC, GN) ⚠

■ MECHANICAL PARTS LOCATION

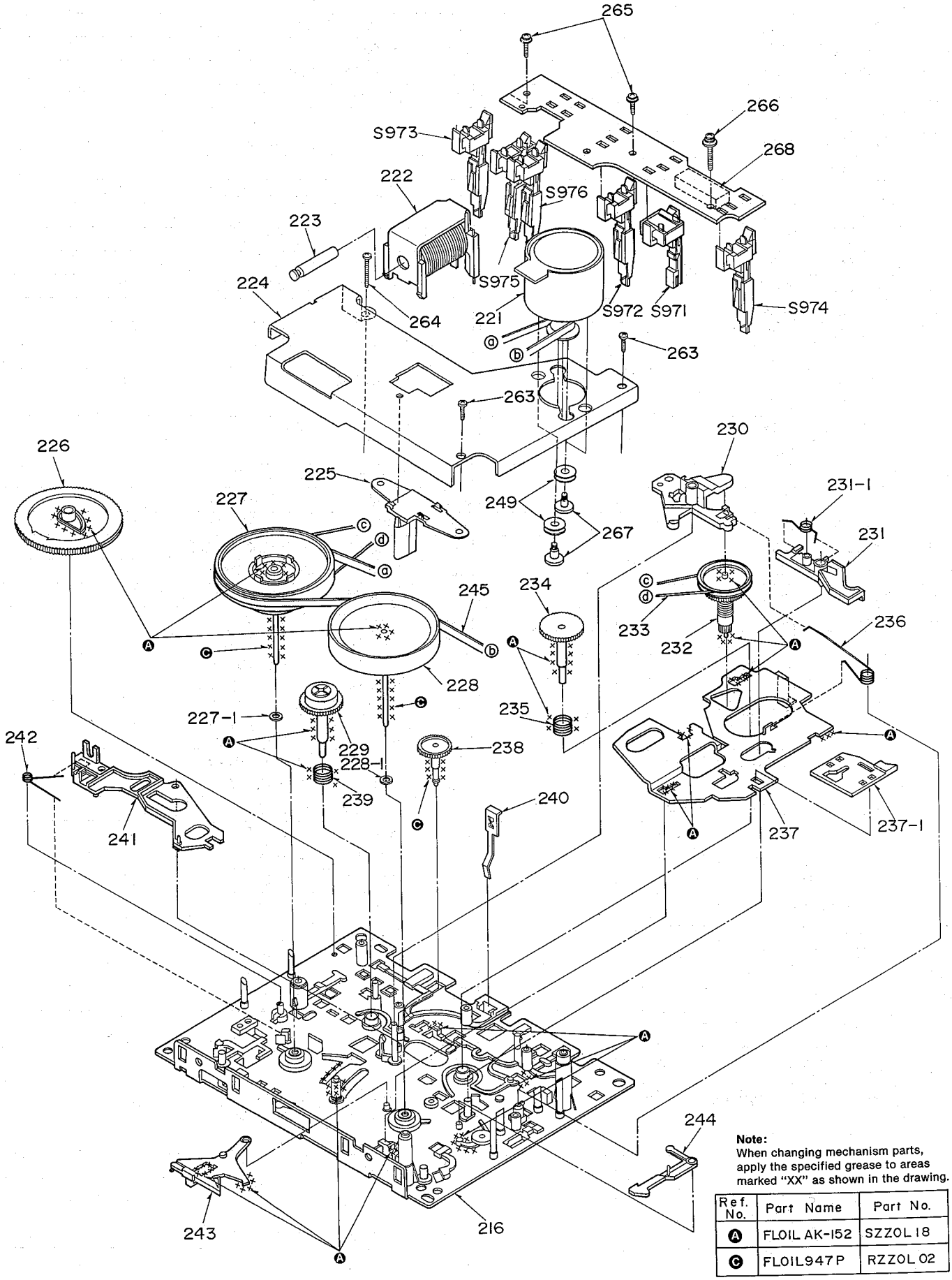
(DECK A: Front view)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FLOIL AK-152	SZZOL 18
Ⓒ	FLOIL947P	RZZOL 02

(DECK A: Rear view)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FLOIL AK-152	SZZOL 18
Ⓒ	FLOIL947P	RZZOL 02

■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST	
DECK A			
201	RXQ0019	HEAD BLOCK (REC./PLAYBACK)	
202	RUA793Z	HEAD BASE	
203	RZLAR300	ROD	
203-1	RUW143Z	SPRING	
204	1UB0089ZA	ARM	
204-1	RUW148ZA	SPRING	
205	1DM0018ZA	REEL TABLE (R)	
206	1DM0017ZA	REEL TABLE (F)	
207	RUB502Z	LEVER	
208	RDG5772Z	GEAR	
209	RUB508ZA	BRAKE ROD	
210	RUB506Z	LEVER	
211	1UB0088ZA	ARM (R)	
211-1	RUW141Z	SPRING	
212	1UB0087ZA	ARM (F)	
212-1	RUW140Z	SPRING	
213	RUB507Z	EJECT ROD (R)	
214	RNL1Z	DAMPER ARM	
215	RUB503Z	MAIN LEVER	
216	RZUSX980	CHASSIS	
217	RUW142ZA	SPRING	
218	RUD105Z	SPRING	
219	RUW144ZA	SPRING	
220	RUW139ZA	SPRING	
221	RFM134ZA	DC MOTOR	
222	1UE0015ZA	PLUNGER	
223	RUB428Z	MOVING IRON CORE	
224	RUL1030ZC	ANGLE	
225	RMD5014Z	ANGLE	
226	RDG5927ZA	GEAR	
227	1DW0037ZA	FLYWHEEL (F)	
227-1	RNW139ZA	WASHER	
228	1DW0038ZA	FLYWHEEL (R)	
228-1	RNW138Z	WASHER	
229	1DG0006ZA	REEL TABLE GEAR	
230	RUB513Z	ARM	
231	1UB0091ZA	LEVER	
231-1	RUW146ZA	SPRING	
232	1DR0011ZA	MAIN PULLEY	
233	RDV90ZB	BELT	
234	RDG5769ZA	REEL TABLE GEAR	
235	RUQ10Z	SPRING	
236	RUW145ZA	SPRING	
237	1UB0090ZA	ROD	
237-1	RUB512Z	ROD	
238	RDG5773ZA	GEAR	
239	RUQ30Z	SPRING	
240	RUS609Z	TAPE PRESSURE SPRING	

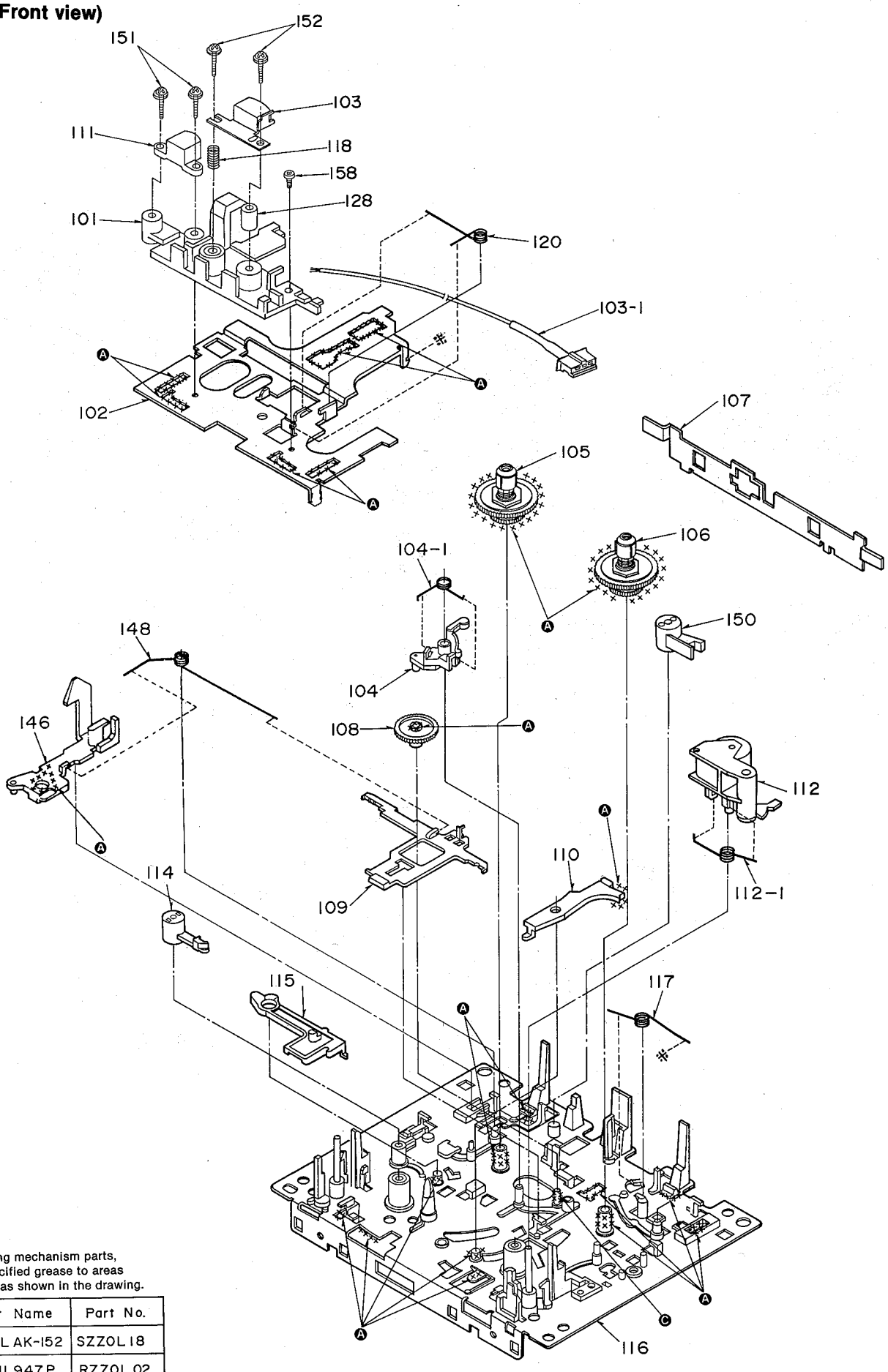
Ref. No.	Part No.	Part Name & Description	Remarks
241	RUB514Z	LEVER	
242	RUW147ZA	SPRING	
243	RUB515Z	LEVER	
244	RUB509ZA	LEVER	
245	RDV108ZA	CAPSTAN BELT	
249	RHG3032Z	RUBBER CUSHION	
250	RNL97ZA	DAMPER ARM	
251	REX0059	LEAD WIRE BLOCK	
261	XTW2+6L	SCREW	
262	XTW2+8L	SCREW	
263	XTN26+7J	SCREW	
264	XTN26+16F	SCREW	
265	XTW2+8S	SCREW	
266	XYC2+JF16	SCREW	
267	QHQ1303	SCREW	
268	SJT31044-H	CONNECTOR (10P), J971	
269	XYN26+F6	SCREW	

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST	
DECK B			
101	RMD5013ZB	HEAD ANGLE	
102	RUA793ZA	HEAD BASE	
103	SJH103-1	PLAYBACK HEAD	
103-1	REX0060	LEAD WIRE BLOCK	
104	1UB00089ZA	ARM	
104-1	RUW148ZA	SPRING	
105	1DM00005ZA	REEL TABLE (R)	
106	1DM00017ZA	REEL TABLE (F)	
107	RUB502ZC	LEVER	
108	RDG5772ZA	GEAR	
109	RUB508ZA	BRAKE ROD	
110	RUB506ZB	ROCK LEVER	
111	RUG82Z	DAMYE HEAD	
112	1UB00087ZA	ARM	
112-1	RUW140ZB	SPRING	
114	RNL1Z	DAMPER ARM	
115	RUB503ZB	MAIN LEVER	
116	RZUAR300	CHASSIS	
117	RUW142ZA	SPRING	
118	QBA51278	SPRING	
120	RUW139ZA	SPRING	
121	RFM134ZA	DC MOTOR	
122	1UE00015ZA	PLUNGER	
123	RUB428Z	MOVING IRON CORE	
124	RUL1030ZC	ANGLE	
125	RMD5017ZA	ANGLE	
126	RDG5927ZC	MAIN GERA	
127	1DW00037ZA	FLYWHEEL (F)	
127-1	RNW139ZA	WASHER	
128	RHM278ZA	SPACER	
129	1DG00006ZA	REEL TABLE GEAR	
130	RUB513ZC	ARM	
131	1UB00091ZA	LEVER	
131-1	RUW146ZA	SPRING	
132	1DR00011ZA	MAIN PULLEY	
133	RDV90ZB	BELT	
134	RDG5769ZA	REEL TABLE GEAR	
135	RUQ10Z	SPRING	
136	RUW145ZA	SPRING	
137	1UB00090ZA	ROD	
137-1	RUB512ZB	ROD	
138	RDG5773ZA	GEAR	
139	RUQ30Z	SPRING	
140	RUS609Z	TAPE PRESSURE SPRING	
141	RUB514ZB	LEVER	
142	RUW147ZA	SPRING	
144	RUB509ZA	LEVER	
145	RDV109ZA	CAPSTAN BELT	

Ref. No.	Part No.	Part Name & Description	Remarks
146	RUB541Z	EJECT ROD (L)	
148	RUW167ZA	SPRING	
149	RHG3032ZA	RUBBER CUSHION	
150	RNL180ZA	DAMPER ARM	
151	QHQ1361A	SCREW	
152	RHE5201ZA	SCREW	
153	XTN26+7J	SCREW	
154	XTN26+16F	SCREW	
155	XTW2+8S	SCREW	
156	XYC2+JF16	SCREW	
157	XSN26+3	SCREW	
158	XTN2+5F	SCREW	
159	SJT30744-H	CONNECTOR (7P), J951	

■ MECHANICAL PARTS LOCATION

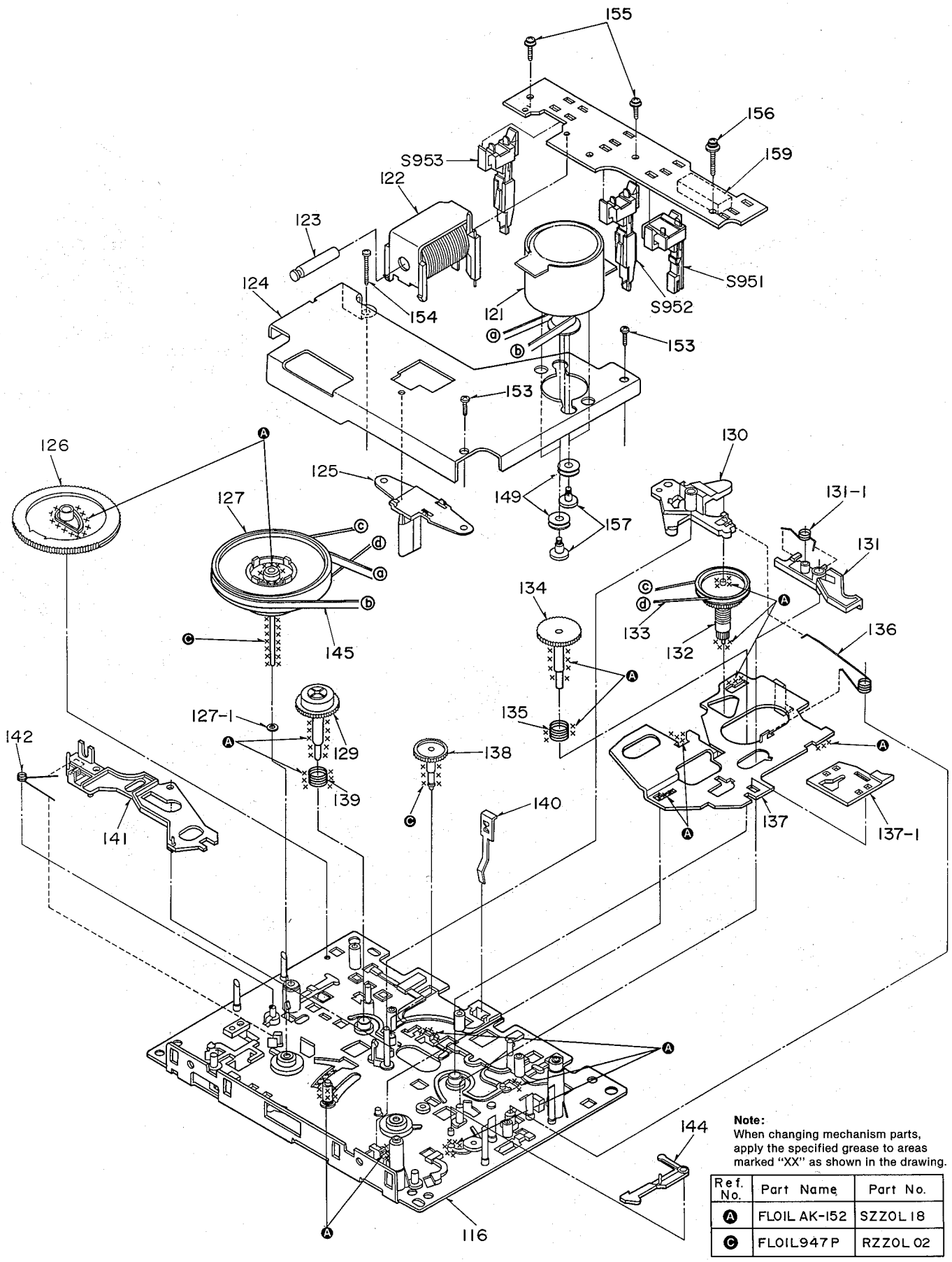
(DECK B: Front view)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FL01L AK-152	SZZ0L18
Ⓒ	FL01L947P	RZZ0L02

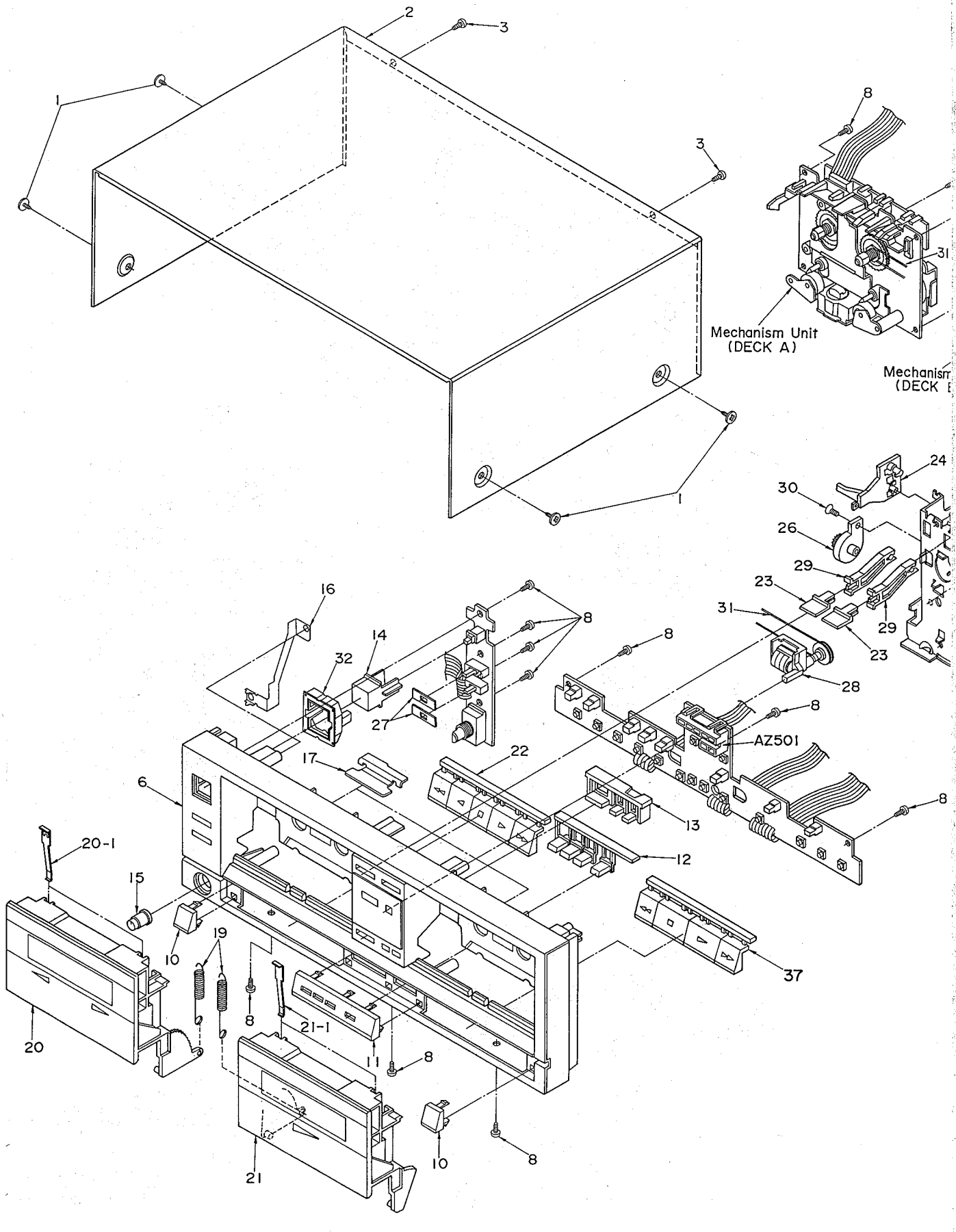
(DECK B: Rear view)

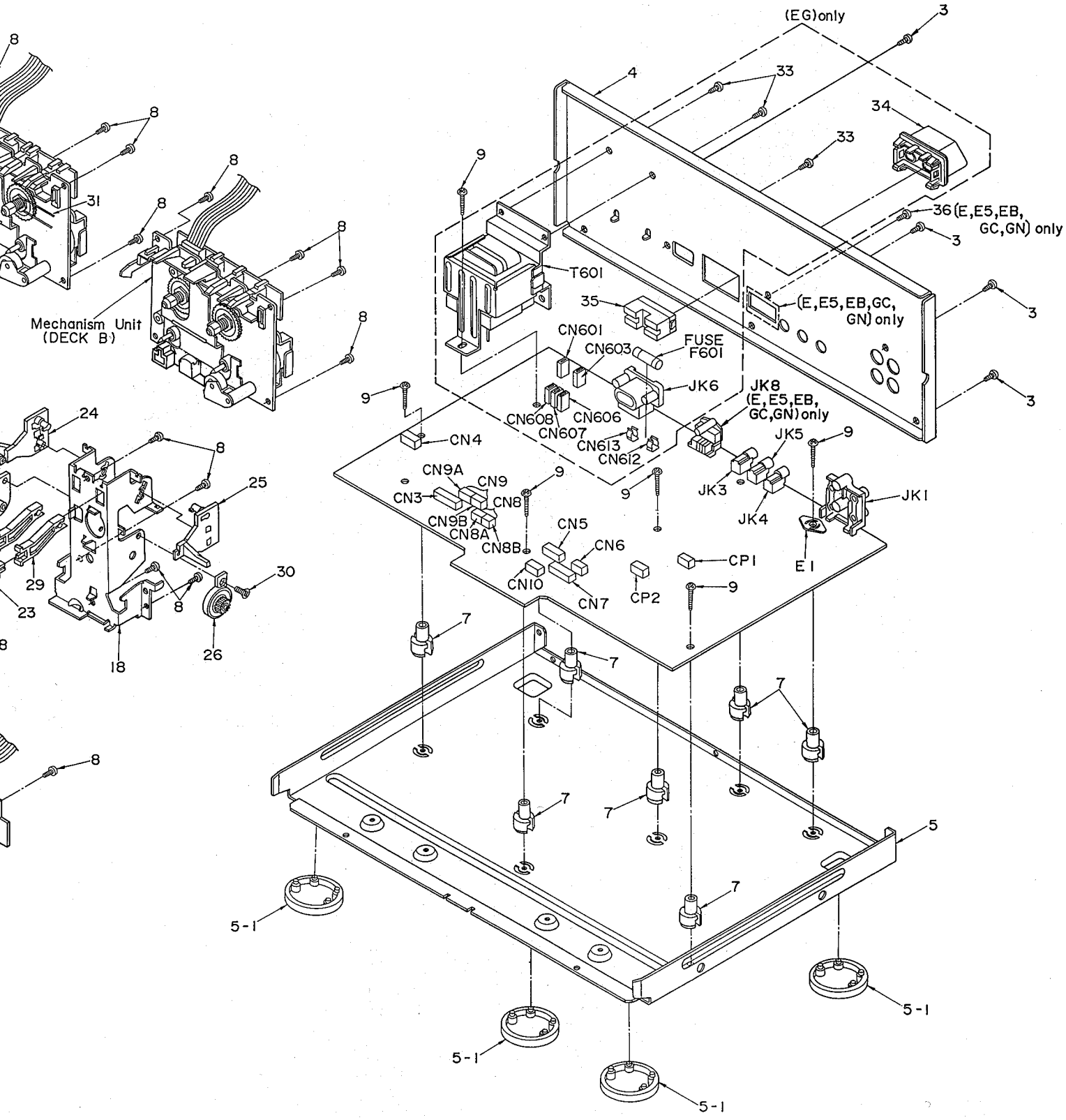


Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FLOIL AK-152	SZZOL18
Ⓒ	FLOIL947P	RZZOL02

■ CABINET PARTS LOCATION




(EG)only
Mechanism Unit
(DECK B)
T601
FUSE
F601
CN601
CN603
CN608
CN606
CN607
CN613
CN612
JK6
JK8
(E,E5,EB,
GC,GN)only
(E,E5,EB,GC,
GN)only
36(E,E5,EB,
GC,GN)only
CN4
CN9A
CN9
CN3
CN8
CN9B
CN8A
CN8B
CN5
CN6
CN10
CN7
CP2
CP1
JK5
JK3
JK4
JK1
E1
5-1

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
1	SNE2129-1	SCREW	
2	RKM0024-K	CABINET	
3	XTBS3+8JFZ1	SCREW	
4	RGR0014A-A	REAR PANEL	(EB)
4	RGR0014A-C	REAR PANEL	(E, E5, GC, GN)
4	RGR0014B-A	REAR PANEL	(EG)
5	RMK0056	BOTTOM BOARD ASS'Y	
5-1	RKA0011	FOOT	
6	RGP0055	FRONT PANEL ASS'Y	(E, E5, GC, GN)
6	RGP0056	FRONT PANEL ASS'Y	(EB)
6	RGP0057	FRONT PANEL ASS'Y	(EG)
7	SHE187-2	HOLDER	
8	XTB3+10JFZ	SCREW	
9	XTB3+20J	SCREW	
10	RGK0073	ORNAMENT, BUTTON (B)	
11	RGK0072	ORNAMENT, BUTTON (A)	
12	RGU0183	BUTTON ASS'Y, DOLBY	
13	RGU0089	BUTTON, EDIT	
14	RGU0090	BUTTON, POWER	
15	RGW0015	KNOB, REC LEVEL	
16	RJR0015	GND PLATE	
17	RMA0052-1	BRACKET	
18	RMA0064	EJECT BRACKET	
19	RMB0042	EJECT SPRING	
20	RYF0017	CASSETTE HOLDER (DECK A)	
20-1	QBP2006A	SPRING, TAPE PRESSURE	
21	RYF0018	CASSETTE HOLDER (DECK B)	
21-1	QBP2006A	SPRING, TAPE PRESSURE	
22	SBCF13A	BUTTON, OPERATION (DECK A)	
23	SBC928	BUTTON, EJECT	
24	SHEF1	EJECT LEVER (L)	
25	SHEF2-1	EJECT LEVER (R)	
26	SMQSX911-KE	DAMPER GEAR ASS'Y	
27	SHR6076	ORNAMENT	
28	SJN29	TAPE COUNTER	
29	SUBF3	EJECT ROD	
30	XTS3+8J	SCREW	
31	SMQ20024	COUNTER BELT	
32	RMR0109	BUTTON GUIDE	
33	XTBS3+8JFZ1	SCREW	(EG)
34	SJS9333A	AC OUTLET COVER	(EG)
35	SJS9333B	AC OUTLET	(EG) ⚠
36	XTBS3+8JFZ1	SCREW	(E, E5, EB, GC, GN)
37	SBCF12A-1	BUTTON, OPERATION (DECK B)	
		PACKING MATERIAL	

Ref. No.	Part No.	Part Name & Description	Remarks
P1	RPG0125	CARTON BOX	(E, E5, EG, GC, GN)
P1	RPG0275	CARTON BOX	(EB)
P2	RPN0183A	RAD, FRONT	(E, E5, EG, GC, GN)
P2	RPN0165A	RAD, FRONT	(EB)
P3	RPN0183B	PAD, BACK	(E, E5, EG, GC, GN)
P3	RPN0165B	PAD, BACK	(EB)
P4	SPSD152	PAD, ACCESSORIES	(E, E5, EG, GC, GN)
P4	SPS5303	PAD, ACCESSORIES	(EB)
P5	SPP753	PROTECTION COVER	
		ACCESSORIES	
A1	RQF0178	INSTRUCTION MANUAL	(E, E5)
A1	RQF0179	INSTRUCTION MANUAL	(EG)
A1	RQF0180	INSTRUCTION MANUAL	(GN)
A1	RQF0184	INSTRUCTION MANUAL	(GC)
A1	RQF0269	INSTRUCTION MANUAL	(EB)
A2	SFDAC05E03	POWER CORD	(EG) ⚠
A3	RFAD06	CORD	
A4	SJP2257T	CORD	
A5	REX0036	FLAT CABLE (TO AMPLIFIER)	(E, E5, EB, GC, GN)

Printed in Japan
H890408900 YY/TN

ORDER NO. AD9003059S8

Service Manual

Supplement

Cassette Deck

RS-X911

Dolby NR-Equipped
Stereo Double Cassette Deck

DOLBY SYSTEM

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Color

(K)... Black Type

Area

Country Code	Area	Color
(E/E5)	Continental Europe.	(K)
(EB)	Great Britain.	(K)
(EG)	F.R.G. and Italy (West Germany).	(K)
(GC)	Asia, Latin America, Middle Near East and Africa.	(K)
(GN)	Oceania.	(K)

Please file and use this supplement manual together with the service manual for Model No. RS-X911, Order No. AD8904093C8.

Note: • The purpose of this supplement is to correct an error in the "Replacement Parts List". Please correct your service manual as follows.

CORRECTION

■ REPLACEMENT PARTS LIST

Ref. No.	Change of Part No. ORIGINAL → NEW		Part Name & Description	Remarks
SWITCH (ES)				
S951	———	**RSH1A89Z**	SW, MODE (DECK B)	
S952	———	**RSH1A90Z**	SW, HALF (DECK B)	
S953	———	**RSH1A90Z**	SW, ATS (DECK B)	
S971	———	**RSH1A89Z**	SW, MODE (DECK A)	
S972	———	**RSH1A90Z**	SW, HALF (DECK A)	
S973	———	**RSH1A90Z**	SW, R. REC INH. (DECK A)	
S974	———	**RSH1A90Z**	SW, F. REC INH. (DECK A)	
S975	———	**RSH1A90Z**	SW, ATS (DECK A)	
S976	———	**RSH1A90Z**	SW, ATS (DECK A)	
MECHANISM PARTS LIST				
DECK A				
221	RFM134ZA	**RFM133ZA**	DC MOTOR	
DECK B				
121	RFM134ZA	**RFM133ZA**	DC MOTOR	

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

Printed in Japan
K900308900TN

ORDER NO. AD8904093C8-A

Cassette Deck

RS-X911

DEUTSCH

MESSUNGEN UND EINSTELL METHODEN

Meßinstrumente

- Elektronisches Voltmeter (EVM)
- Oszilloskop
- Digitaler Frequenzmesser
- Audiofrequenz-Oszillator
- Dämpfungswiderstand
- Gleichstrom-Voltmeter
- Widerstand (600Ω)

Tonkopf-Azimuteinstellung (Deck A/B)

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für die Azimuteinstellung (8kHz, −20dB) ab. Drehen Sie die Azimuteinstellschraube so lange, bis die Abgaben des L-K und R-K den Höchstwert erreichen, und die Lissajosscghe wellenfigur sich, wie abgebildet, 0 Grad nähert.

Anmerkung:

When L-K und R-K nicht auf demselben Punkt ihren Höchstwert erreichen, stellen Sie beide Kanäle auf den jeweiligen Höchstwert und gleichen dann aus.

2. Nehmen Sie denselben Einstellvorgang in der Wiedergabestellung vor.

Prüfung des Pegelunterschiedes bei Vorwärts- und Rückwärtsdrehung

3. Den Abschnitt für Verstärkungseinstellung (315Hz, 0dB) des Prüfbandes (QZZCFM) wiedergeben und sicherstellen, daß der Pegelunterschied bei Vorwärts- und Rückwärtsdrehung kleiner als 1dB ist.
4. Nach der Einstellung Schrauben-Sicherungsmittel an die Azimuth-Einstellschraube geben.

Bandgeschwindigkeits-einstellung (Deck A/B)

Normale Geschwindigkeit

1. Den Wahlschalter für Editier-Bandgeschwindigkeit auf "**x1**" stellen.
2. Den mittleren Teil des Prüfbandes (QZZCWAT) wiedergeben.
3. Deck B= **VR902** und Deck A=**VR903** so einstellen, daß

Hohe Geschwindigketi

4. Den Wahlschalter für Editier-Bandgeschwindigkeit auf "**x2**" stellen und den Prüfmoduspunkt und GND verbinden.
5. Den mittleren Teil des Prüfbandes (QZZCWAT) wiedergeben.
6. Deck B= **VR901** so einstellen, daß der Ausgang dem Sollwert entspricht.

Einstellung der Wiedergabeverstärkungsregelung (Deck A/B)

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für die Einstellung der Verstärkungsregelung (315Hz, 0dB) ab.
2. Stellen Sie **VR3** (L-K) [[**VR4** (R-K)]] für Deck B uon **VR5** (L-K) [[**VR6** (R-K)]] für Deck A so ein, daß die Abgabe den Normwert erfüllt.

Wiedergabefrequenzaang (Deck A/B)

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für den Frequenzgang (315Hz, 12,5kHz~63Hz, −20dB) ab.
2. Achten Sie darauf, daß der Frequenzgang für beide Kanäle (L-K, R-K) in dem in **Abb. 6** gezeigten Bereich liegt.

D

Löschstromeinstellung (Deck A)

1. Die leere Metallband-Prüfkassette (QZZCRZ) einsetzen und das Gerät auf Aufnahmepause schalten.
2. **VR301** so einstellen, daß der Ausgang zwischen **TP3** und GND dem Sollwert entspricht.

Gesamtfrequenzgang (Deck A)

1. Legen Sie das normale Leertestband (QZZCRA) ein und stellen das Gerät auf Aufnahme-/Pause-Betrieb.
2. Geben Sie über einen Lautstärkeregler ein Bezugseingabesignal (1kHz, −24dB) ein.
3. Stellen Sie das Signal auf 20dB und justieren die Frequenz von 50Hz~10kHz.
4. Nehmen Sie das Wobbelsignal auf.
5. Geben Sie das aufgenommene Signal wieder und achten darauf, daß dieses sich im Vergleich zur Bazugsfrequenz (1kHz) in dem in **Abb. 8** aufgezeichneten Bereich befindet.
6. Sollte das Signal nicht im Normbereich liegen, justieren Sie **VR303** (L-K) und **VR302** (R-K), so daß der Frequenzpegel mit der Norm übereinstimmt.
7. Wiederholen Sie die Schritte 2~6 und verwender das CrO_2 Band (QZZCRX) und das Metallband (QZZCRZ). Der Frequenzbereich wird auf 12.5kHz (50Hz~12.5kHz) angehoben.
8. Achten Sie darauf, daß sich der Frequenzpegel in dem in **Abb. 9** aufgezeigten Bereich befindet.

Einstellung der Gesamtverstärkungsregelung (Deck A)

1. Legen Sie das normale Leertestband (QZZCRA) ein und stellen das Gerät auf Aufnahme-/Betrieb.
2. Legen Sie ein Bezugseingabesignal (1kHz, −24dB) an. Stellen Sie das Ausgangssignal auf einen Pegel von 0.4V ein.
3. Nehmen Sie das Eingabesignal auf.
4. Geben Sie das in Schritt 3 oben aufgenommene Signal wieder und achten Sie darauf, daß das Ausgangssignal mit dem Normwert übereinstimmt.
5. Sollte der Wert nicht innerhalb der Norm liegen, justieren Sie **VR7** (L-K) und **VR8** (R-K).
6. Wiederholen Sie die Schritte 2~5 von oben so lange, bis das Ausgangssignal im Normbereich liegt.

FRANÇAIS

METHODES DES MEASURES ET REGLAGES

Appareils de mesurage

- Voltmètre électronique
- Oscilloscope
- Compteur de fréquence numérique
- Oscillateur de fréquence audio
- A.T.T. (Atténuateur)
- Voltmètre à C.C.
- Résistance (600Ω)

Reglage Azimutal de la tete (Platine A/B)

1. Faire jouer la portion du réglage de l'azimuth (8kHz, −20dB) de la bande d'essai (QZZCFM). Ajuster la vis de la mise au point azimutale jusqu'à de que les sorties du canal de gauche et du canal de droite soient maximisées et que la forme d'onde de Lissajous, comme il est illustré, approche de 0 degré.

Nota:

Si le canal de gauche et canal de droite ne sont pas maximisés au même point, régler le point où les niveaux de chaque canal sont maximiséset égaux.

2. Effectuer le même r&e 19 mglage sur le mode d'audition.

Vérification de la différence de niveau pour les deux sens de rotation

3. Introduire une bande métal vierge prévue pour les essais (QZZCPZ) et vérifier que la différence de niveau pour lés déux sens de rotation est inférieure à 1dB.
4. Après cela, mettre une goutte de vernis de blocage sur la vis de réglage de l'azimut.

Réglage de la vitesse de défilement Vitesse (Platine A/B)

normal

1. Placer le sélecteur de vitesse d'édition sur la position "**x1**".
2. Lire la partie centrale de la bande d'essai (QZZCWAT).
3. Régler **VR902** pour la platine B et **VR901** pour la platine A de manière que la sortie ait la valeur standard.

Grande vitesse

4. Placer le sélecteur de vitesse d'édition sur la position "**x2**" et relier le point de test et la masse (GND).
5. Lire la partie centrale de la band d'essai (QZZCWAT).
6. Régler **VR901** pour la platine B de manière que la sortie ait la valeur standard.

Reglage de L'amplification de Lecture (Platine A/B)

1. Faire jouer la partie réglée de l'amplification (315Hz, 0dB) de la bande d'essai (QZZCFM).
2. Régler la platine B: **VR3** (canal de gauche) [[**VR4** (canal de droite)]] et la platine A: **VR5** (canal de gauche) [[**VR6** (canal de droite)]] de telle sorte que la sortie soit en deçà de la valeur standard.

Reponse en Frequence de la Lecture (Platine A/B)

1. Faier jouer la partie de la réponse en fréquence (315Hz, 12.5kHz, −63Hz, −20dB) de la bande d'essai (QZZCFM).
2. S'assurer que la réponse en fréquence soit en deçà de la plage montrée dans la **Fig. 6**, à la fois pour le canal de gauche et le canal de droite.

Réglage du courant d'effacement (Platine A)

1. Introduire une bande métal vierge prévue pour les essais (QZZCRZ) et régler l'appareil en mode de pause d'enregistrement.
2. Régler **VR301** de maniére que la sortie entre **TP3** et GND ait la valeur standard.

Reponse en Frequence Totale (Platine A)

1. Introduire la bande d'essai vierge normale (QZZCRA) et régler l'appareil sur le mode d'intermission d'un disque.
2. Appliquer un signal d'entrée de référence (1kHz, −24dB) par l'intermédiaire d'un atténuateur.
3. Diminuer le signal de 20dB et régler la fréquence de 50Hz~10kHz.
4. Enregistrer le balayage de fréquence.
5. Faire jouer le signal enregistré et s'assurer qu'il soit en deçà de la plage montrée à la **Fig. 8** en comparaison à la fréquence de référence (1kHz).
6. S'li n'est pas en deçá de la plage standard, régler **VR303** (canal de gquche) et **VR302** (canal de droite) de telle sorte que le niveau de fréquence soit en deçá de la plage standard.
7. Répéter les étapes 2~6 ci-dessus en utilisant la band CrO_2 (QZZCRX) et la bande métallisée (QZZCRX) en augmentant la plage de fréquence à 12.5kHz (50Hz~12.5kHz).
8. S'assurer que le niveau soit en deçà de la plage montrée à la **Fig. 9**.

Reglage de L'amplification Totale (Platine A)

1. Introduire la bande d'essai vierge normale (QZZCRA) et régler l'appareil sur le mode d'intermission d'un disque.
2. Appliquer un signal d'entrée de référence (1kHz, −24dB). Diminuer la sortie de telle sorte que son niveau devienne de 0.4V.
3. Enregistrer ce signal d'entrée.
4. Faire jouer le signal enregistré à l'étape 3 ci-dessus, et s'assurer que la sortie en deçà de la valeur standard.
5. Si elle n'est pas en deçà de la valeur standard, régler **VR7** (canal de gauche) et **VR8** (canal de droite).
6. Répéter les étapes 2~5 ci-dessus jusqu'à ce que la sortie soit en deçà de la valeur standard.

ESPAÑOL

METODOS DE AJUSTE Y MEDIDA

Instrumento de medición

- EVM (Voltimetro electrónico)
- Osciloscopio
- Frecuencimetro digital
- Oscilador AF
- ATT (Atenuador)
- Voltimetro CC
- Resistor (600Ω)

Ajuste Azimutal de Cabeza (Platina A/B)

1. Reproducir la porción de ajuste azimutal (8kHz, −20dB) de la cinta de prueba (QZZCFM). Variar el tornillo de ajuste azimutal hasta que las salidas del CH-I y CH-D se maximicen y forma de onda de lissajous, como ilustrado, se acerque a grado 0.

Nota:

Si CH-I y CH-D no son maximizados en el mismo punto, ajustar al punto donde los niveles de cada canal sean maximizados e igualados.

2. Efectuar el mismo ajuste en la modalidad de reproducción.

Comprobación de la diferencia de nivel de giro hacia adelante y hacia atrás

3. Reproduzca la parte del adjuste de ganancia (315Hz, 0dB) de la cinta de prueba (QZZCFM) y luego asegúrese de que la diferencia de nivel de giro hacia adelante y hacia atrás sea menor que 1dB.
4. Dcspués del ajustc, aplique pintura de fijación al tornillo de ajuste del azimut.

Ajuste de la Velocidad de la Cinta (Platina A/B)

Velocidad normal

1. Lieve a "**x1**" el selector de la velocidad de la cinta de edición.
2. Reproduzca la sección central de la cinta de prueba (QZZCWAT).
3. Ajuste la platina B= **VR902** y la platina A= **VR903** de modo que la salida quede comprendida dentro de los valores estándares.

Alta velocidad

4. Lieve a "**x2**" el selector de la velocidad de la cinta de edición y conecte GND y el punto de la modalidad de prueba.
5. Reproduzca la sección central de la cinta de prueba (QZZCWAT).
6. Ajuste la platina B= **VR901** de modo que la salida quede comprendida dentro de los valores estándares.

Ajuste de Ganancia de Reproduccion (Platina A/B)

1. Reproducir la porción ajustada de ganancia (315Hz, 0dB) de la cinta de prueba (QZZCFM).
2. Ajustar la Platina B: **VR3** (CH-I) [[**VR4** (CH-D)]] y la Platina A: **VR5** (CH-I) [[**VR6** (CH-D]] de manera que la salida esté dentro del valor estándar.

Respuesta de Frecuencia de Reproduccion (Platina A/B)

1. Reproducir la parte de respuesta de frecuencia de reproducción (315Hz, 12.5kHz~63Hz, −20dB) de la cinta de prueba (QZZCFM).
2. Asegurarse de que la respuesta de frecuencia esté dentro de la gama mostrada en la **Fig. 6** para ambos CH-I y CH-D.

Ajuste de la Corriente de Borrado (Platina A)

1. Inserte la cinta de prueba metálica en blanco (QZZCRZ) y ponga el aparato en la modalidad de pausa de grabación.
2. Regule **VR301** de modo que la salida entre **TP3** y GND esté dento de los valores estándares.

Respuesta de Frecuencia Total (Platina A)

1. Poner una cinta virgen normal (QZZCRA) y poner la unidad en la modalidad de Pausa de Grabación.
2. Aplicar la señal de entrada de referencia (1kHz, −24dB) a través de un atenuador.
3. Atenuar la señal por 20dB y ajustar la frecuencia de 50Hz~10kHz.
4. Grabar el barrido de frecuencia.
5. Reproducir la señal grabada y asegurarse de que esté dentro de la gama mostrada en la **Fig. 8** en comparación con la frecuencia de referencia (1kHz).
6. Si no está dentro de la gama de frecuencia, ajustar **VR303** (CH-I) y **VR302** (CH-D) de manera que el nivel de frecuencia esté dentro de la gama estándar.
7. Repetir los pasos 2~6 de arriba utilizando la cinta CrO_2 (QZZCRX) y la cinta metálica (QZZCRZ) incrementando la gama de frecuencia a 12.5kHz (50Hz~12.5kHz).
8. Asegurarse de que el nivel est&e 19mdentro de la gama mostrada en la **Fig. 9**.

Ajuste de Ganancia Total (Platina A)

1. Insertar la cinta de prueba en blance normal (QZZCRA) y poner la unidad en modalidad de pausa de Grabación.
2. Aplicar la señal de entrada de referencia (1kHz, −24dB). Atenuar la salida de manera que su nivel se haga 0.4V.
3. Grabar la señal de entrada.
4. Reproducir la señal grabada en el paso 3 de arriba y asegurarse de que la salide esté dentro del valor estándar.
5. Si no está dentro del valor estándar, ajustar **VR7** (CH-I) y **VR8** (CH-D).
6. Repetir el paso 2~5 de arriba hasta que la salida esté dentro del valor estándar.

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